

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	ANATOMY 1			
2.	Code	3MF100212			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	I Semester –first Year	7.	Number of ECTS	8
8.	Professor (s)	Associate Professor Svetlana Jovevska			
9.	Requirements for enrolling the course	recorded first semester			
10.	Aims of the course (competences): Objectives of the curriculum (competencies): Introduction to anatomy as morphological science, master of professional terminology, complete study of the locomotion system limbs				
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ The content of the curriculum: <ul style="list-style-type: none"> ▪ 1.Introduction and osteologia in anatomy, types of bones, bone components, specialized terminology. ▪ 2.Bones of real and movable part of the upper limb ▪ 3.Bones of real and movable part of the lower limb ▪ 4.Bones chest and trunk ▪ 5.Introduction in sindezmozlogia, clue wrist, components of the joint, types of joints ▪ 6.Sindezmozlogia of upper limb ▪ 7.Sindezmozlogia the trunk and lower limb ▪ 8.Bones head (skull and face) ▪ 9. Joints head (skull and face), trunk and spine ▪ 10.Introduction in miologia, angiologia, Neurology ▪ 11.Miologia, of the upper limb and the lower limb ▪ 12.Miologia, angiologia Neurology and the lower limb ▪ 13. Angiologia of the upper limb and the lower limb ▪ 14. Neurology of the upper limb ▪ 15. Neurology of the lower limb ▪ 1.Orientation of bone fracture, scapula, upper arm, forearm bones (radius and ulna) ▪ 2.Skeleton on hand: hand (bunch of hand), hand bones and bones of the fingers, chest and spine ▪ 3.Skeleton the belt of lower-limb pelvic bone, skeleton bone os coxae and os sacrum ▪ 4.Skeleton of above the knee-femur, and bones of the knee-tibia, fibula, patele ▪ 5.Skeleton foot-bones foothill, knee and toes ▪ 6.Joints the upper limb, chest and spine ▪ 7.Joints of lower limb ▪ 8.Bones head (bones of the skull and facial bones) ▪ 9.Joints head (skull and face) ▪ 10.Muscules of the upper limb ▪ 11.Mucules and of the lower limb ▪ 12. Blood vessels of the upper limb ▪ 13. Blood vessels of the lower limb ▪ 14. Inervation of the upper limb ▪ 15. Inervation of the lower limb 				
12.	Methods of learning: Interactive classes, individual consultations with students				
13.	Total amount of available time: 240				
14.	Distribution of available time: 240 / 3+4+1 per week				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	36 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	24 hours	
16.	Other forms of activities	16.1	Projects	7 hours	
		16.2	Individual work	1 hours	
		16.3	Home learning	4 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam		70 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
			91 to 100 points	10 (ten)	(A)

19.	Signature approval and entrance to the final exam/ or transition in the next year		Attendance at lectures at least 7 (60%) continuous checks lectures and 10 tutorials for Final Exam Scored 42 points and laid continuous checks.			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	A. Kargovska-Klisarova, J. Joseph	Anatomy of human-General of	educational work	
		2.	A. Kargovska-Klisarova, N. Djordjevic, D. Lazarova	Anatomy of man-Osteologia	educational work	
		3.	A. Kargovska-Klisarova A. Kargovska-Klisarova, J. Joseph A. Kargovska-Klisarova	Anatomy of human-arm and chest Anatomy of man-Head and Neck Anatomy of man-Foot		
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Sinelnikov	Anatomical Atlas of man (I, II, III part)	.	
		2.	F.N. Netter	Atlas of human anatomy		
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	BIOLOGY				
2.	Code	3MF100812				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	I Semester – first year	7.	Number of ECTS	5	
8.	Professor (s)	Associate professor Nevenka Velickova PhD				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): The aims of this course is for the students to get familiar with the routines, techniques and methods that are related with microscopy, as well to get basic knowledge in the field of cell biology. They study the cytological methods used in medicine which are especially important in the diagnosis of certain diseases. Students develop specific competences in development of scientific research procedures and technics which are used in microscopy, building an analytical approach that will be used during the diagnostic of certain hereditary and nonhereditary diseases, develop basic theoretical knowledge for the cell and cell organelles, especially the nucleus structure and constitution of the whole genetic material. All membrane and nonmembrane organelles are included with special review on their functions and associated pathologies. In this way the students will be able to identify a normal cell from physiologically amended cell. Students have a goal to get familiar with the structure and function of macromolecules in the living cell and the clinical-biochemical correlations in it. All the theoretical knowledge that the students gather in this subject are controlled and determined with practical laboratory work and practice.					
11.	Content of the course program: <ul style="list-style-type: none"> • Composition of the cell • Chemical composition of the cell • Cell membrane structure • Transport through the cell membrane • Endoplasmic reticulum structure • Golgi apparatus structure • Mitochondrial structure • Structure of lysosomes and peroxisomes • Cytoskeleton • Structure of the nucleus • Cell division 					

	<ul style="list-style-type: none"> Cell differentiation Apoptosis 				
12.	Methods of learning: Lectures, exercises, seminars research and practical activities				
13.	Total amount of available time: 150 hours				
14.	Distribution of available time: 2+2+1 per week				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning		60 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		60 hours
16.	Other forms of activities	16.1	Projects		0 hours
		16.2	Individual work		15 hours
		16.3	Home learning		15 hours
17.	Method of assessment				
17.1	Tests / Oral Exam			70 scores	
	Individual work (presentation, projects, practical)			10 scores	
	Activity and participation			20 scores	
18.	Assessment Criteria (scores/ points)			up to 50 points	5 (five). (F)
				51 to 60 points	6 (six) (E)
				61 to 70 points	7 (seven) (D)
				71 to 80 points	8 (eight) (C)
				81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course	
20.	Language of teaching / study			English	
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation	
22.	Literature				
22.1	Basic literature				
	No	Author	Title	Publisher	Year
	1.	Michael H. Ross; Pavlina Vojnic	Cell and molecular biology		2010
	2.	Tomas Pollard; William Earnshaw	Cell Biology	Elsevier	2008
3.					
22.2	Additional literature				
	No	Author	Title	Publisher	Year
	1.	Sylvia S. Mader, Michael	Biology	Windelspecht, McGraw-Hill Higher Education	2015
	2.	Junqueira, L. C. Et al.	Basic Histology: Text & Atlas,	McGrawHill, New York, 10th Edition,	2003

Program of the Course for Integrated First and Second cycle					
1.	Title of Course	MEDICINAL CHEMISTRY			
2.	Code	3MF134012			
3.	Study program	General Medicine			
4.	Organizer of the Study program	Goce Delce University - Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second Cycle			
6.	Academic year/ semester	I Semester - first year	7.	Number of ECTS	6
8.	Professor (s)	Prof. Dr. Rubin Gulaboski Prof. Dr. Emilija Janevik Ivanovska			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences):				

	<p>The course of Medicinal Chemistry focuses on the basics of inorganic and organic chemistry, while also covering relevant aspects on simple organic synthesis, design and development of pharmaceuticals, first principles of drug action related to the structure activity relationships and short introduction on drug-target interactions. After successful completion of the course, students will be able to understand the output of many chemical phenomena in the living systems. Moreover, they will be also able to perform simple organic synthesis of some drugs, to assess potential activity of many drugs, and to learn about implications of relevant drug-target interactions.</p>			
11.	<p>Contents of the course (per 15 weeks per semester):</p> <p>I. Theoretical part:</p> <ol style="list-style-type: none"> 1. Introduction; Theories of atomic structure; Quantum mechanical model of electronic structure; 2. Atoms, molecules, ions. State of the matter. Chemical bonds; 3. Mole, Amount of substance. Basic concepts for calculation according to molecular formulas. Nomenclature of inorganic compounds. 4. Introduction to the properties of gasses. Medical gases, properties and application. 5. Solution chemistry; Solution preparation; Dilution of solutions; Autoionization of water; Concept of pH; Acids, inorganic Bases; salts 6. Chemical reactions; Kinetics of chemical reactions; chemical equilibria; Thermochemistry; Thermodynamics; Gibbs free energy. 7. Hydrolysis; Buffers; calculation pH of buffers; Buffer properties; Relevant Buffers for living cells. 8. Carbon chemistry; Molecular orbitals; Concepts of bond formation in organic chemistry; Nomenclature of organic compounds. 9. Reactions in organic chemistry; substitution; addition, elimination; Polymerization; Free radicals; 10. Aliphatic organic compounds; alcohols, aldehydes, ketones, organic carboxylic acids, esters, amides, amines, ethers; chemical reactions; functions. 11. Aromatic organic compounds; Chemistry of benzene. Chemical reactions of aromatic compounds; 12. Heterocyclic aromatic compounds; Members; Functions; Reactivity 13. Aromatic acids; Polyphenols; Radical Scavengers; 14. Short overview of natural aromatic products used in medicine. Synthesis and functions. Methods of synthesis of drugs; Methods for separations in organic chemistry 15. Structure activity relationships (SAR), Drug targets; Drug-target interactions. <p>II. Practice in Medicinal Chemistry (Laboratory exercises)</p> <ol style="list-style-type: none"> 1. Introduction to practical work in chemical laboratory; safety measures; 2. Introduction to chemical calculations; 3. Medical gases; synthesis of some medical gases; properties. 4. Preparation of solutions; dilutions; properties of solutions; acids, bases; salts. 5. Solution chemistry; Chemical reactions; kinetics of chemical reactions; thermochemistry; hydrolysis 6. Buffers; properties of buffers; physiological buffers; Buffers preparation; buffer capacity. 7. Introduction to organic chemistry; Organic nomenclature; 8. Basic reactions in organic chemistry; Polymerization reactions 9. Reactions of alcohols and ethers 10. Reactions of aldehydes, ketones and carboxylic acids 11. Reactions of carboxylic acids; 12. Chemical reactions of aromatic compounds. 13. Organic synthesis of some simple drugs. Synthesis of acetyl salicylic acid. Synthesis of benzamide; synthesis of iodoform. 14. Extraction and isolation of natural products used in medicine. Extraction and isolation of polyphenols from fruits. 15. Drug-target interactions; Methods for measuring kinetics and thermodynamics of drug-drug interactions; 			
12.	Methods of learning; teaching; interactive activities at classes; student's seminars; project works; workshops.			
13.	Total amount of available time: 6 ECTS x 30 h = 180 h			
14.	Distribution of available time: 45+30+30+30+30 = 180 h (2+2+1)			
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	15 x 3h = 45 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 x 2h = 30 hours
16.	Other forms of activities	16.1	Projects	15 hours
		16.2	Individual work	30 hours
		16.3	Home learning	60 hours
17.	Method of assessment			
17.	17.1	Tests / Oral Exam	70 scores	
	17.2	Individual work (presentation, projects, practical)	10 scores	
	17.3	Activity and participation	20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five). (F)
			51 to 60 points	6 (six) (E)

		61 to 70 points	7 (seven)	(D)
		71 to 80 points	8 (eight)	(C)
		81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year	60% active participation at the course		
20.	Language of teaching / study	English		
21.	Methods of measuring / monitoring the quality of teaching	Standardized motor tests, observation, survey Self-evaluation		
22.	Literature			
	22.1	Basic literature		
		No	Author	Title
		1.	T. Garaeth	Medicinal Chemistry An Introduction 2 nd Edition
		2.	G. L. Patrick	An introduction to medicinal Chemistry 5 nd Edition
		3.	C. Wermuth	The Practice of Medicinal Chemistry, 2 nd Edition
	22.2	Additional literature		
		No	Author	Title
		1.	C. Wermuth, D. Aldous, P. Raboisson, D. Rognan	The practice of Medicinal Chemistry, 4 th Edition
		2.	John M. Beale, Jr., John H. Block.	Wilson and Gisvold's textbook of organic medicinal and pharmaceutical chemistry. — 12 th ed.
		3.	Thomas L. Lemke, David A. Williams ; associate editors, Victoria F. Roche, S. William Zito	Foye-s-Principles-of- Medicinal-Chemistry 7 th Edition
			Publisher	Year
			. Academic Press	2015
			Lippincott Williams & Wilkins, a Wolters Kluwer business.	2011
			Lippincott Williams & Wilkins, a Wolters Kluwer business.	2013

Annex 3		Program of the Course for Integrated First and Second cycle		
1.	Title of Course	Biophysics		
2.	Code	3MF129212		
3.	Study program	General Medicine		
4.	Organizer of the Study program	Goce Delce University - Stip Faculty of Medical Sciences		
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle		
6.	Academic year/ semester	I Semester - first year	7.	Number of ECTS
				5
8.	Professor (s)	Prof. Zdenka Stojanovska		
9.	Requirements for enrolling the course	None		
10.	Aims of the course (competences): Establishment and extension of basic theoretical knowledge of physics and its application in medical science.			
11.	Contents of the course (per 15 weeks per semester): Mechanics, biomechanics; Real systems, energy, work and power, elasticity and plasticity. Mechanical oscillations and mechanical waves; Bioacoustics; Ultrasound and its application in medicine. Biomechanics of fluids; Ideal and real fluids. Thermodynamic; Transport Processes. Electrical phenomena, electrical signals in the body. Physics of electro diagnostic and electrotherapy. Basic phenomena and laws in optics; Optical instruments; Lights effects, Vision; Lasers and its application in the medicine. Ionization radiation, generation, interactions, biological effects. Physics of nuclear medicine, radiology and radiotherapy.			
12.	Methods of learning: Discussions, laboratory and numerical exercises, homework, home learning.			
13.	Total amount of available time: 150 hours			
14.	Distribution of available time: 30+30+0+45+45=150 hours			

15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours		
16.	Other forms of activities	16.1	Projects	0 hours		
		16.2	Individual work	45 hours		
		16.3	Home learning	45 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Zdenka Stojanovska	Lecture notes	UGD	
		2.	Herman P. Irving.	Physics of the Human Body	Springer-Verlag Berlin Heidelberg	2007
	3.	Jerrold T. Bushberg, J. Anthony Seibert, Edwin M Leidholdt, John M Boone	The Essential Physics of Medical Imaging; Third edition;	Lippincott Williams & Wilkins;	2012	
	22.2	Additional literature				
		No	Author	Title	Publishe	Year
		1.	Kirsten Franklin, Paul Muir, Terry Scott, Lara Wilcocks, Paul Yates.	Introduction to Biological Physics for the Health and Life Sciences	Wiley	2010

Program of the Course for Integrated First and Second cycle					
1.	Title of Course	Introduction to medicine			
2.	Code				
3.	Study program	General Medicine			
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	First year/ First or second semester	7.	Number of ECTS	2
8.	Professor (s)	Assistant Professor PhD MSc. MD Valentina Simonovska			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): The aim of this course is for students to gain basic knowledge of Medicine as a science. Students will get to know: basic principles and tasks in Medicine, history of Medicine and medical education.				
11.	Contents of the course (per 15 weeks per semester): <ol style="list-style-type: none"> 1. Medicine in the Antic period 2. Medical revelations – evolution of medicine 3. Evolution of Medicine in RNM 4. Evolution of medical education 5. Health and factors that affect it 6. Natural course of diseases. Scientific and alternative Medicine 7. Characteristics of medicine and medical professions 8. Clinical Medicine 9. Globalization of Health 10. Latest health condition in the world 11. Organizations in healthcare 12. Medical information 				

12	Methods of learning: Classes, methods of group discussions, individual assignments, papers and presentations.			
13	Total amount of available time: 2 ECTS * 30 hours = 60 hours			
14	Distribution of available time: 30 + 0 + 15 + 5 + 10 = 60 hours			
15	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	0 hours
16	Other forms of activities	16.1	Projects	15 hours
		16.2	Individual work	5 hours
		16.3	Home learning	10 hours
17	Method of assessment			
	17.1	Tests / Oral Exam	70 scores	
	17.2	Individual work (presentation, projects, practical)	10 scores	
	17.3	Activity and participation	20 scores	
18	Assessment Criteria (scores/ points)		up to 50 points	5 (five). (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)
19	Signature approval and entrance to the final exam/ or transition in the next year		Attendance of classes and a minimum of 42 points from all pre-exam activities.	
20	Language of teaching / study		English	
21	Methods of measuring / monitoring the		Standardized motor tests, observation,	

.	quality of teaching	survey Self-evaluation				
22	Literature					
.	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	W. Bynum	The history of medicine	Oxford	2003
		2.				
		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Theodore H. Tulchinsky, Elena A. Varavikova	The New Public Health	“Studentski zbor” – Skopje	2003
		2.				
		3.				

Annex 3.		Program of the Course for Integrated First cycle studies				
1.	Title of Course	ENGLISH LANGUAGE				
2.	Code	4FF100621				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delchev University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	First cycle				
6.	Academic year/ semester	I Semester – first year	7.	Number of ECTS	4	
8.	Professor (s)	Dragan Donev				
9.	Requirements for enrolling the course	None				
10.	<p>Aims of the course (competences):</p> <p>At the end of the course the student is expected to:</p> <ul style="list-style-type: none"> - understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type; - introduce him/herself and others and can ask and answer questions about personal details such as where they live, people they know and things they have; - interact in a simple way provided the other person talks slowly and clearly and is prepared to help; - identify himself and answer questions concerning, for example, his nationality, his age, his place of residence, his date of birth, his school and possibly, to ask himself questions of this type to somebody; - recognize names, the most common words or expressions in simple situations of the everyday life: signs, handwritten indications doubled by icons, prices, schedules; - spot and understand quantified data, proper nouns and other very simple information in a short text; 					

	<ul style="list-style-type: none"> - identify globally (in their aspect, their typography, their localization) the function of certain common texts of the daily environment or the school environment; - write a very simple message concerning the activities of the daily life containing some personal details. 			
11	<p>Contents of the course (per 15 weeks per semester):</p> <p>Vocabulary: Basic vocabulary including: numbers, colours, classroom objects, family-related words, appearance, character adjectives, everyday activities, jobs, rooms, things in the house, buildings, star signs, foods, containers, weather, seasons, months, feelings, clothes, parts of the body, animals, sports, sport equipment, travelling, natural features.</p> <p>Grammar: Basic grammar: verb to be, articles - a/an, this/that, question words, have got, possessive case/pronouns/adjectives, present simple, love/like + ing, prepositions of time, adverbs of frequency, there is/are, plurals, prepositions of place, imperative, countable/uncountable nouns, some/any/much/many/a lot of, present continuous, comparisons, ordinals, past simple (regular verbs), used to, had, past simple (irregular verbs), future simple, be going to, present continuous for future arrangements, modal verbs (can, could, must, mustn't should, shouldn't), present perfect, superlatives.</p> <p>All communicative skills are equally included in the course including basic communication: spelling names, exchanging phones, talking about counties and nationalities, greetings and introductions, describing physical appearances and character, talking about abilities, asking for and offering help, talking about daily routines, preferences, jobs, telling time, talking about houses and locations, giving directions, talking about food preferences and preparing food, giving advice, , making predictions about the future, talking about plans and intentions, talking about travelling and personal experiences, etc. The students will acquire basic knowledge of English culture.</p>			
12	<p>Methods of learning:</p> <p>Interactive method: group work, reports, homework, seminar papers, discussion, debate, cooperative studying techniques, individual tasks, simulation of extra-curricular educational activities, individual studying.</p>			
13	Total amount of available time: 120			
14	Distribution of available time: 2+1+1			
15	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours
16	Other forms of activities	16.1	Projects	15 hours
		16.2	Individual work	30 hours
		16.3	Home learning	30 hours
17	Method of assessment			
18	18.1	Tests / Oral Exam	70 scores	
	18.2	Individual work (presentation, projects, practical)	10 scores	
	18.3	Activity and participation	20 scores	
19	Assessment Criteria (scores/ points)		up to 50 points	5 (five) (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)
20	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course	
21	Language of teaching / study		English	
22	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation	
	Literature			

23	23.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	VIRGINIA EVANS -JENNY DOOLEY	Upstream Elementary A2	Express Publishing	2006
		2.	Clive Oxenden and Christina Latham-Koenig	New English File Beginner	Oxford University Press	2011
	23.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Zoze Murgoski	English Grammar: With Contrastive Notes on Macedonian	National and University Library Kliment Ohridski	1997

Annex 3.		Program of the Course for Integrated First cycle studies				
1.	Title of Course	GERMAN LANGUAGE LEVEL A1.1				
2.	Code	4FF100221				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delchev University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	First cycle				
6.	Academic year/ semester	First year / First semester	7.	Number of ECTS	4	
8.	Professor (s)	Lecturer MA Marica Tasevska				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): Students to be able to conduct short dialogues when meeting, greeting, to express opinions on everyday topics, to find an unknown city, to communicate with people from German-speaking countries, to shop in Germany, to make recommendations, to describe and express specific opinions, to get acquainted with the culture and civilization in the German-speaking countries, etc.					
11.	Contents of the course (per 15 weeks per semester): Grammar: verbs and conjugation of verbs (haben, sein, kommen, sprechen, fahren, schlafen, sehen ...) question words (wer, wo, woher, wie,) personal pronouns (accusative and dative), possessive pronouns (nominative and accusative), definite / indefinite article, separable verbs, adverbs in time (accusative and dative), question sentences, modal verbs (mögen, können, wollen, dürfen, sollen, müssen), perfect (past tense), imperative (ordering, adverbs of place, modality (könnten, würden + infinitiv), comparative and conjugative adjectives (viel, gern, gut), verbs with dative, conjunctions for independent sentences (und, oder, aber, de nn), ordinal numbers. Vocabulary: words from the field: greeting, presentation, eating and drinking, weight measures, furniture, household appliances, numbers, colors, activities and leisure, weather, professions, human body parts, diagnoses and recommendations, landmarks of the city, transportation, fashion and clothing, more important holidays in the German-speaking countries, etc. Speaking: dialogues when meeting, first meeting, description of person, dialogues in the market, restaurant, description of an apartment or particular room, description of activities we undertake in our free time, description of a profession, description of a city that you visited and country, scheduling, rescheduling or cancellation of an appointment, description of a particular location, answering machine message, dialogues in shopping center, fashion magazine image description, sharing specialty opinions, greetings and phrases to celebrate holidays or festivities in German-speaking countries.					
12.	Methods of learning: Interactive method: group work, reports, homework, seminar papers, discussion, debate, cooperative studying techniques, individual tasks, simulation of extra-curricular educational activities, individual studying.					
13.	Total amount of available time: 120					
14.	Distribution of available time: 2+1+1					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning		30 hours	

		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)			15 hours
16.	Other forms of activities	16.1	Projects			15 hours
		16.2	Individual work			30 hours
		16.3	Home learning			30 hours
17.	Method of assessment					
18.	18.1	Tests / Oral Exam			70 scores	
	18.2	Individual work (presentation, projects, practical)			10 scores	
	18.3	Activity and participation			20 scores	
19.	Assessment Criteria (scores/ points)				up to 50 points	5 (five) (F)
					51 to 60 points	6 (six) (E)
					61 to 70 points	7 (seven) (D)
					71 to 80 points	8 (eight) (C)
					81 to 90 points	9 (nine) (B)
					91 to 100 points	10 (ten) (A)
20.	Signature approval and entrance to the final exam/ or transition in the next year				60% active participation at the course	
21.	Language of teaching / study				English and German	
22.	Methods of measuring / monitoring the quality of teaching				Standardized motor tests, observation, survey Self-evaluation	
23.	Literature					
	23.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Marion Kerner, Silke Hilpert, Monika Reimann, Andreas Tomaszewski..	Schritte International 1 Kursbuch + Arbeitsbuch	Hueber Verlag	2006
		2.	Friederike Jin, Ute Voß	Grammatik aktiv Üben, Hören, Sprechen	Cornelsen	2018
		3.	Ранка Грчева Петер Рау	Голем македонско-германски и германско-македонски речник	Магор	2006
23.2	Additional literature					
	No					
	1.	Димитрија Гацов	Германска Граматика	НУБ „Климент Охридски“ - Скопје	1995	
	2.	Evans Sandra, Pude Angela, Sprech Franz	Menschen A1.2	Hueber Verlag	2012	
	3.	Olga Swerlowa	Grammatik & Konversation Arbeitsblätter für den Deutschunterricht A1-A2-B1	Langenscheid	2013	

Annex 3.		Program of the Course for Integrated First cycle studies			
7.	Title of Course	ITALIAN LANGUAGE LEVEL A1.1			
8.	Code	4FF100421			
9.	Study program	General medicine			
10.	Organizer of the Study program	Goce Delchev University – Stip Faculty of Medical Sciences			
11.	Level (first, second or third cycle of studies)	First cycle			
12.	Academic year/ semester	First year / First semester	7.	Number of ECTS	4
8.	Professor (s)	Nadica Negrievska			
9.	Requirements for enrolling the course	None			
10.	<p>Aims of the course (competences): At the end of the course the student is expected to:</p> <ul style="list-style-type: none"> - understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type; - introduce him/herself and others and can ask and answer questions about personal details such as where they live, people they know and things they have; - interact in a simple way provided the other person talks slowly and clearly and is prepared to help; - identify himself and answer questions concerning, for example, his nationality, his age, his place of residence, his date of birth, his school and possibly, to ask himself questions of this type to somebody; - recognize names, the most common words or expressions in simple situations of the everyday life: signs, handwritten indications doubled by icons, prices, schedules; - spot and understand quantified data, proper nouns and other very simple information in a short text; - identify globally (in their aspect, their typography, their localization) the function of certain common texts of the daily environment or the school environment; - write a very simple message concerning the activities of the daily life containing some personal details. 				
11.	<p>Contents of the course (per 15 weeks per semester): Vocabulary: Basic vocabulary including: numbers, colours, classroom objects, family-related words, appearance, character adjectives, everyday activities, jobs, rooms, things in the house, buildings, foods, containers, months, parts of the body. Basic grammar structures: correct pronunciation of Italian, verbs essere/avere, articles, question words, pronouns, adjectives, present simple, prepositions of time, adverbs of frequency, plurals, prepositions of place. All communicative skills are equally included in the course including basic communication: communicate, in a very simple way; talking about counties and nationalities, greetings and introductions, describing physical appearances and character, talking about abilities, asking for and offering help, talking about daily routines, preferences, telling time, talking about houses and locations, etc. The students will acquire basic knowledge of Italian culture.</p>				
12.	<p>Methods of learning: Interactive method: group work, reports, homework, seminar papers, discussion, debate, cooperative studying techniques, individual tasks, simulation of extra-curricular educational activities, individual studying.</p>				
13.	Total amount of available time: 120				
14.	Distribution of available time: 2+1+1				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours	
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	30 hours	
		16.3	Home learning	30 hours	
17.	Method of assessment				
18.	18.1	Tests / Oral Exam	70 scores		

	18.2	Individual work (presentation, projects, practical)	10 scores			
	18.3	Activity and participation	20 scores			
19.	Assessment Criteria (scores/ points)		up to 50 points	5	(five)	(F)
			51 to 60 points	6	(six)	(E)
			61 to 70 points	7	(seven)	(D)
			71 to 80 points	8	(eight)	(C)
			81 to 90 points	9	(nine)	(B)
			91 to 100 points	10	(ten)	(A)
20.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
21.	Language of teaching / study		English and Italian			
22.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
23.	Literature					
	23.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Marin,T. & Magnelli,S.	Progetto italiano 1, nuovo (Libro dello studente)	Edilingua	2006
		2.	Marin,T. & Magnelli,S.	Progetto italiano 1, nuovo (Quaderno degli esercizi)	Edilingua	2006
23.2	Additional literature					
	No	Author	Title	Publisher	Year	
	1.	Marin,T.	La prova orale 1 (Manuale di conversazione, livello elementare - intermedio)	Edilingua	2000	
	2.	L. Toffolo & N. Nuti,	Allegro 1, Corso di italiano per stranieri, Livello elementare	Edilingua	2003	
	3.	Cozzi, N., Federico F. & Tancorre, A.	Caffè Italia, Corso di italiano 1	ELI s.r.l.	2005	

Annex 3.		Program of the Course for Integrated First cycle studies				
13.	Title of Course	RUSSIAN LANGUAGE LEVEL A1.1				
14.	Code	4FF100321				
15.	Study program	General medicine				
16.	Organizer of the Study program	Goce Delchev University – Stip Faculty of Medical Sciences				
17.	Level (first, second or third cycle of studies)	First cycle				
18.	Academic year/ semester	First year / First semester	7.	Number of ECTS	4	
8.	Professor (s)	Igor Stanojoski				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): The main goal of the course is to train students in practical Russian language proficiency, typical of the basic level of Russian language proficiency, through which they will acquire a vocabulary of Russian words - from 500 to 800 words, developed habits for perceiving speech in the form of monologue and dialogue, developed habits for using colloquial spoken language, as well as developed reading and writing habits.					

11.	Contents of the course (per 15 weeks per semester): During the course, the main emphasis shall be placed on mastering the Russian alphabet and grammatical categories in the Russian language: Nouns, Genus and Number in Nouns, Personal pronouns, Determinative pronouns, Nominative case, Verbs, Present tense, Accusative case, Adjectives. The training shall be based upon non-specialized (essential) themes of a cultural character: Greetings, Introduction, Asking questions like "Who is this?" And "What is this?", Family, Expressing gratitude, "My, mine", Asking questions like "Who are you?", Pets, Using "How much?", Asking questions "How old are you?", Occupation / Work, Country and Language, Wh-questions.						
12.	Methods of learning: Interactive method: group work, reports, homework, seminar papers, discussion, debate, cooperative studying techniques, individual tasks, simulation of extra-curricular educational activities, individual studying.						
13.	Total amount of available time: 120						
14.	Distribution of available time: 2+1+1						
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning		30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		15 hours		
16.	Other forms of activities	16.1	Projects		15 hours		
		16.2	Individual work		30 hours		
		16.3	Home learning		30 hours		
17.	Method of assessment						
18.	18.1	Tests / Oral Exam		70 scores			
	18.2	Individual work (presentation, projects, practical)		10 scores			
	18.3	Activity and participation		20 scores			
19.	Assessment Criteria (scores/ points)			up to 50 points	5	(five)	(F)
				51 to 60 points	6	(six)	(E)
				61 to 70 points	7	(seven)	(D)
				71 to 80 points	8	(eight)	(C)
				81 to 90 points	9	(nine)	(B)
				91 to 100 points	10	(ten)	(A)
20.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course			
21.	Language of teaching / study			English and Russian			
22.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation			
23.	Literature						
	Basic literature						
	23.1	No	Author	Title	Publisher	Year	
		1.	Ирина Осипова	«Ключ» - Учебник русского языка для начинающих.	Corvina, Москва	2005	
23.2	Additional literature						
	No	Author	Title	Publisher	Year		

		1.	S. A. Khavronina, A. I. Shirochenskaya	Русский язык в упражнениях. (Russian in exercises)	Русский язык. Курсы 2017 г.	2017
		2.	Л. В. Московкин, Л. В. Сильвина	Русский язык. Учебник для иностраных студентов подготовительных факультетов	СМИО Пресс, Санкт- Петербург	2006

Annex 3.		Program of the Course for Integrated First cycle studies				
19.	Title of Course	FRENCH LANGUAGE LEVEL A1.1				
20.	Code	4FF100521				
21.	Study program	General medicine				
22.	Organizer of the Study program	Goce Delchev University – Stip Faculty of Medical Sciences				
23.	Level (first, second or third cycle of studies)	First cycle				
24.	Academic year/ semester	First year / First semester	7.	Number of ECTS	4	
8.	Professor (s)	Svetlana Jakimovska				
9.	Requirements for enrolling the course	None				
10.	<p>Aims of the course (competences): At the end of the course the student is expected to:</p> <ul style="list-style-type: none"> - understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type; - introduce him/herself and others and can ask and answer questions about personal details such as where they live, people they know and things they have; - interact in a simple way provided the other person talks slowly and clearly and is prepared to help; - identify himself and answer questions concerning, for example, his nationality, his age, his place of residence, his date of birth, his school and possibly, to ask himself questions of this type to somebody; - recognize names, the most common words or expressions in simple situations of the everyday life: signs, handwritten indications doubled by icons, prices, schedules; - spot and understand quantified data, proper nouns and other very simple information in a short text; - identify globally (in their aspect, their typography, their localization) the function of certain common texts of the daily environment or the school environment; - write a very simple message concerning the activities of the daily life containing some personal details. 					
11.	<p>Contents of the course (per 15 weeks per semester): Vocabulary: Basic vocabulary including: numbers, colours, classroom objects, family-related words, appearance, character adjectives, everyday activities, jobs, rooms, things in the house, buildings, foods, containers, months, parts of the body. Basic grammar structures: correct pronunciation of French, verbs être/avoir, articles, question words, pronouns, adjectives, present simple, prepositions of time, adverbs of frequency, plurals, prepositions of place. All communicative skills are equally included in the course including basic communication: communicate, in a very simple way; talking about counties and nationalities, greetings and introductions, describing physical appearances and character, talking about abilities, asking for and offering help, talking about daily routines, preferences, telling time, talking about houses and locations, etc. The students will acquire basic knowledge of French culture.</p>					
12.	<p>Methods of learning: Interactive method: group work, reports, homework, seminar papers, discussion, debate, cooperative studying techniques, individual tasks, simulation of extra-curricular educational activities, individual studying.</p>					
13.	Total amount of available time: 120					
14.	Distribution of available time: 2+1+1					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning			30 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)			15 hours

16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	30 hours		
		16.3	Home learning	30 hours		
17.	Method of assessment					
18.	18.1	Tests / Oral Exam		70 scores		
	18.2	Individual work (presentation, projects, practical)		10 scores		
	18.3	Activity and participation		20 scores		
19.	Assessment Criteria (scores/ points)			up to 50 points	5 (five) (F)	
				51 to 60 points	6 (six) (E)	
				61 to 70 points	7 (seven) (D)	
				71 to 80 points	8 (eight) (C)	
				81 to 90 points	9 (nine) (B)	
				91 to 100 points	10 (ten) (A)	
20.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course		
21.	Language of teaching / study			English and French		
22.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation		
23.	Literature					
	23.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	CAPELLE, G. & MENAND,R.	Taxi 1 (Méthode de français)	Edilingua	2003
	2.	CAPELLE, G. & MENAND,R.	Taxi 1 (Cahier des exercices)	Edilingua	2003	
23.2	Additional literature					
		No	Author	Title	Publisher	Year
		1.				
		2.				
		3.				

Annex 3.	Program of the Course for Integrated First cycle studies				
25.	Title of Course	SPANISH LANGUAGE LEVEL A1.1			
26.	Code	4FF100121			
27.	Study program	General medicine			
28.	Organizer of the Study program	Goce Delchev University – Stip Faculty of Medical Sciences			
29.	Level (first, second or third cycle of studies)	First cycle			
30.	Academic year/ semester	First year / First semester	7.	Number of ECTS	4

8.	Professor (s)	Marija Todorova				
9.	Requirements for enrolling the course	None				
10.	<p>Aims of the course (competences): At the end of the course the student is expected to:</p> <ul style="list-style-type: none"> - understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type; - introduce him/herself and others and can ask and answer questions about personal details such as where they live, people they know and things they have; - interact in a simple way provided the other person talks slowly and clearly and is prepared to help; - identify himself and answer questions concerning, for example, his nationality, his age, his place of residence, his date of birth, his school and possibly, to ask himself questions of this type to somebody; - recognize names, the most common words or expressions in simple situations of the everyday life: signs, handwritten indications doubled by icons, prices, schedules; - spot and understand quantified data, proper nouns and other very simple information in a short text; - identify globally (in their aspect, their typography, their localization) the function of certain common texts of the daily environment or the school environment; - write a very simple message concerning the activities of the daily life containing some personal details. 					
11.	<p>Contents of the course (per 15 weeks per semester): Vocabulary: Basic vocabulary including: numbers, colours, classroom objects, family-related words, appearance, character adjectives, everyday activities, jobs, rooms, things in the house, buildings, foods, containers, months, parts of the body. Basic grammar structures: correct pronunciation of Spanish, verbs ser/estar, articles, gender and number, question words, pronouns, adjectives, present simple, prepositions, adverbs of frequency, prepositions of place. All communicative skills are equally included in the course including basic communication: communicate, in a very simple way; talking about countries and nationalities, greetings and introductions, describing physical appearances and character, talking about abilities, asking for and offering help, talking about daily routines, preferences, telling time, talking about houses and locations, etc. The students will acquire basic knowledge of Spanish culture.</p>					
12.	<p>Methods of learning: Interactive method: group work, reports, homework, seminar papers, discussion, debate, cooperative studying techniques, individual tasks, simulation of extra-curricular educational activities, individual studying.</p>					
13.	Total amount of available time: 120					
14.	Distribution of available time: 2+1+1					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	16 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	30 hours		
		16.3	Home learning	31 hours		
17.	Method of assessment					
18.	18.1	Tests / Oral Exam	70 scores			
	18.2	Individual work (presentation, projects, practical)	10 scores			
	18.3	Activity and participation	21 scores			
19.	Assessment Criteria (scores/ points)		up to 50 points	5	(five)	(F)
			51 to 60 points	6	(six)	(E)
			61 to 70 points	7	(seven)	(D)
			71 to 80 points	8	(eight)	(C)
			81 to 90 points	9	(nine)	(B)
			91 to 100 points	10	(ten)	(A)

20.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
21.	Language of teaching / study		English and Spanish			
22.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
23.	Literature					
	23.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Dr. Marianne Barceló, Juana Sánchez Benito, Verónica Beucker, P.M. Luengo, Bibiana Wiener	¡Vamos! - 1	Mundo Español ediciones	2007
		2.	A. Jarvis, R. Lebrede, F. Mena-Ayllón	"Basic Spanish Grammar"	Houghton Mifflin Company -USA	2000
		Additional literature				
23.2	No	Author	Title	Publisher	Year	
	1.	A. Gonzales Hermoso, J. R. Cuenot, M. Sanchez Alfaro	"Gramatica de español lengua extranjera"	Мадрид, Шпанија	1999	
	2.	Cristina Karpacheva	"Manual de español"	Софија	1998	
	3.	Ramon Sarmiento	"Gramatica progresiva de español para extranjeros"	"Colibri", Софија	1998	

Annex 3.		Program of the Course for Integrated First cycle studies				
7.	Title of Course	MACEDONIAN LANGUAGE LEVEL A1.1				
8.	Code	4FF101521				
9.	Study program	General medicine				
10.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences				
11.	Level (first, second or third cycle of studies)	First cycle				
12.	Academic year/ semester	First year / First semester	7.	Number of ECTS	0	
8.	Professor (s)	Ana Vitanova-Ringaceva				
9.	Requirements for enrolling the course	None				
10.	<p>Aims of the course (competences):</p> <p>At the end of the course the student is expected to:</p> <ul style="list-style-type: none"> - understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type; - introduce him/herself and others and can ask and answer questions about personal details such as where they live, people they know and things they have; - interact in a simple way provided the other person talks slowly and clearly and is prepared to help; - identify himself and answer questions concerning, for example, his nationality, his age, his place of residence, his date of birth, his school and possibly, to ask himself questions of this type to somebody; - recognize names, the most common words or expressions in simple situations of the everyday life: signs, handwritten indications doubled by icons, prices, schedules; - spot and understand quantified data, proper nouns and other very simple information in a short text; - identify globally (in their aspect, their typography, their localization) the function of certain common texts of the daily environment or the school environment; - write a very simple message concerning the activities of the daily life containing some personal details. 					

11.	<p>Contents of the course (per 15 weeks per semester): Vocabulary: Basic vocabulary including: Alphabet, international words, names, greetings, countries and cities, objects, professions, countries and languages, family, food and drinks, meals, days, months, clothes, colors, parts of the head and the body, free time, abilities; Grammar: Basic grammar: personal pronouns and the auxiliary verb “сум” – “to be” (affirmative, negative and interrogative form), present tense (a-, e- and i-verb groups), nouns (gender, number and determination), adjectives and possessive pronouns-adjectives. All communicative skills are equally included in the course including basic communication: spelling names, exchanging phones, talking about counties and nationalities, greetings and introductions, describing physical appearances and character, talking about abilities, talking about daily routines, telling time, talking about houses and locations, talking about food preferences and preparing food, etc. The students will acquire basic knowledge of Macedonian culture.</p>					
12.	<p>Methods of learning: Interactive method: group work, reports, homework, seminar papers, discussion, debate, cooperative studying techniques, individual tasks, simulation of extra-curricular educational activities, individual studying.</p>					
13.	Total amount of available time: 120					
14.	Distribution of available time: 2+1+1					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning		30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		15 hours	
16.	Other forms of activities	16.1	Projects		15 hours	
		16.2	Individual work		30 hours	
		16.3	Home learning		30 hours	
17.	Method of assessment					
18.	18.1	Tests / Oral Exam		70 scores		
	18.2	Individual work (presentation, projects, practical)		10 scores		
	18.3	Activity and participation		20 scores		
19.	Assessment Criteria (scores/ points)		up to 50 points	5	(five) (F)	
			51 to 60 points	6	(six) (E)	
			61 to 70 points	7	(seven) (D)	
			71 to 80 points	8	(eight) (C)	
			81 to 90 points	9	(nine) (B)	
			91 to 100 points	10	(ten) (A)	
20.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
21.	Language of teaching / study		English			
22.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
23.	Literature					
	23.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Марија Кусевска, Лилјана Митковска	Зборувате ли македонски? (учебник)	МЕДИС-информатика	1995/ 2016
		2.	Елени Бужаровска, Татјана Гочкова- Стојановска	Зборувате ли македонски? (работна тетратка)	МЕДИС-информатика	1995
	3.	Татјана Гочкова- Стојановска, Искра Пановска Димкова	Божилак	Универзитет „Св. Кирил и Методиј“	2012	
23.2	Additional literature					
	No	Author	Title	Publisher	Year	
	1.					

Program of the Course for Integrated First and Second cycle					
1.	Title of Course	SPORT AND RECREATION			
2.	Code	4F0107717			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	I semester - first year	7.	Number of ECTS	0
8.	Professor (s)	Assoc. prof. Biljana Popeska, PhD			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): To fulfill students' needs for movement and physical activity; to improve and develop students movement skills and motor abilities; to adopt information and knowledge for independent choice and participation in adequate type of physical activity and recreational sport based on individual needs and preferences; to learn how to practice different forms of active breaks; to learn about the benefits from regular physical activity for overall health and wellbeing.				
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Basic physical preparation (introduction in basic principles of physical exercises: warm up activities, exercises for overall fitness, cool down activities - application in each workout session; sample of exercises for each muscle group) ▪ Basic physical preparation ▪ Basic physical preparation (functional training) ▪ Aerobics (type of aerobic depending from the structure of the group: high – low aerobics, step aerobics, tae – bo, body conditioning) ▪ Aerobic ▪ Outdoor activities – hiking and orienting ▪ Ball games (basketball, football) ▪ Ball games (basketball, football) ▪ Table- tennis and badminton ▪ Table- tennis and badminton ▪ Ball games (volleyball, handball) ▪ Ball games (volleyball, handball) ▪ Outdoor activities – cycling, rollers or hiking ▪ Dances (modern and traditional) ▪ Outdoor activities 				
12.	Methods of learning: practical exercises, method of sport training				
13.	Total amount of available time: 48 hours				
14.	Distribution of available time: 0+0+2				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	0 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	12 hours	
16.	Other forms of activities	16.1	Projects	0 hours	
		16.2	Individual work	0 hours	
		16.3	Home learning	0 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam		0 scores	
	17.2	Individual work (presentation, projects, practical)		0 scores	
	17.3	Activity and participation		0 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course		
20.	Language of teaching / study		English		

21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey, self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Haywood, K., & Getchell, N.	Life span motor development	Champaign: IL. Human Kinetics.	2004
		2.	Kohl, H., Murray, D., & Salvo, D	Foundations of Physical Activity and Public Health (Second Edition)	Champaign: IL. Human Kinetics.	2018
		3.	Wilmore, J. & Costill, D.	Physiology of sport and exercise, (Third edition)	Champaign: Human Kinetic, Illinois	2002
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Malina, R., Bouchard, C. & Bar - Or, O	Growth, Maturation and Physical Activity (Second Edition).	Champaign: IL. Human Kinetics.	2004
		2.	Beashel, P., Sibon, A., & Taylor, J	Sport examined	Nelson Thornes Ltd,	2004

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	ANATOMY 2				
2.	Code	3MF100312				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	II Semester – first year	7.	Number of ECTS	7	
8.	Professor (s)	Associate Professor Svetlana Jovevska				
9.	Requirements for enrolling the course	recorded first semester				
10.	Aims of the course (competences): Objectives of the curriculum (competencies): Introduction to the anatomy of the chest, abdomen and pelvis, and skeletotopical and holotopical ratios of these organs in body cavities					
11.	<p>Contents of the course (per 15 weeks per semester):</p> <ul style="list-style-type: none"> ▪ The content of the curriculum: <ul style="list-style-type: none"> ▪ 1. Walls of the chest, breast construction ▪ 2. Second Bodies of the system for breathing ▪ 3. The bodies of the System for Blood ▪ 4. Abdominal wall muscle, vasculature, innervation, ratios ▪ 5. Organs in the abdominal cavity-peritoneum, esophagus, stomach ▪ 6. Organs in the abdominal cavity and small-bowel ▪ 7. Liver, bile tract, pancreas ▪ 8. Spleen, kidney, adrenal gland ▪ 9. Urinary tract ▪ 10. Pelvic cavity-wall- muscle ▪ 11. Pelvic cavity-wall -vasculature ▪ 12. Pelvic cavity-wall- innervation ▪ 13. Pelvic cavity-limits and construction; urines authorities ▪ 14. Female genital ▪ 15. Male genitalia ▪ 1. Chest-wall construction, division of mediastinum, borders, composition, topography ▪ 2. Second Mediastinal organs-ratios; structure and topography of the respiratory system ▪ 3. Construction of system blood-heart and major blood vessels, topography and proportions ▪ 4. Abdominal wall-building: muscle ratios of muscle organs, vasculature and innervation ▪ 5. Orientation in the abdominal cavity-peritoneum, esophagus, stomach ▪ 6. Topography of organs in the abdominal cavity-structure and orientation of the small and large intestine ▪ 7. Orientation models of liver, bile tract, ▪ 8. Orientation patterns of spleen and pancreas ▪ 9. Kidney, adrenal gland, urinary tract ▪ 10. Pelvic wall construction, topographic relations of bodies, pelvic organs ▪ 11. Pelvic cavity-urines bodies, relationships with other organs ▪ 12. Pelvic cavity- vascularization 					

	<ul style="list-style-type: none"> ▪ 13. Pelvic cavity- innervation ▪ 14. Female genital-orientation, relations with other bodies ▪ 15. Male genitalia-orientation, relations with other bodies 					
12.	Methods of learning: Interactive classes, individual consultations with students					
13.	Total amount of available time: 210					
14.	Distribution of available time:210 / 3+3+1 / per week					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	36 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	24 hours		
16.	Other forms of activities	16.1	Projects	0 hours		
		16.2	Individual work	1 hours		
		16.3	Home learning	4 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five). (F)		
			51 to 60 points	6 (six) (E)		
			61 to 70 points	7 (seven) (D)		
			71 to 80 points	8 (eight) (C)		
			81 to 90 points	9 (nine) (B)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		91 to 100 points	10 (ten) (A)		
			Attendance at lectures at least 7 (60%) continuous checks lectures and 10 tutorials for Final Exam Scored 42 points and laid continuous checks.			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	A. Kargovska-Klisarova	Anatomy of human-arm and chest	educational work	
		2.	A.Kargovska-Klisarova, MD. Dzhidrova, A. Strateska-Zafiroska	Anatomy of man-Abdomen	educational work	
		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Sinelnikov	Anatomical Atlas of man (I, II, III part)	.	
		2.	F.N. Netter	Atlas of human anatomy		
		3.				

Program of the Course for Integrated First and Second cycle						
1.	Title of Course	HISTOLOGY AND EMBRIOLOGY 1				
2.	Code	3MF103912				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	II Semester – first year	7.	Number of ECTS	7	
8.	Professor (s)	Dzengis Jasar, Vanja Filipovski, Katerina Kubelka-Sabit				
9.	Requirements for enrolling the course					
10.	Aims of the course (competences): The purpose of this course is to introduce students to the histological structure of all tissues and organ systems. By studying this course, students will gain basic knowledge in the field of Histology					

	and Embryology as an inevitable prerequisite for mastering some subsequent subjects or modules, such as Pathology and Pathophysiology. All the theoretical knowledge in this course, the students check and determine with practical laboratory work and exercises.					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> • Epithelial tissue • Joint tissue • Muscle tissue • Nervous tissue • Spermatogenesis and oogenesis • Embryonic leaves • Organogenesis • Placentation Overview of embryonic development <ul style="list-style-type: none"> • Skin • Gastro-intestinal system 					
12.	Methods of learning: theoretical instruction, practical exercises, seminar work					
13.	Total amount of available time: 7 ECTS x 30 hours = 210 hours					
14.	Distribution of available time: 45+45+15+25+80 = 210 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	45 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	45 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	25 hours		
		16.3	Home learning	80 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Luiz Carlos Junqueira, Jose Carneiro	Basic Histology : Text and Atlas 10th edition Edition	Lange	2002
		2.	Mecher	Junqueira's Basic Histology: Text and Atlas 15th Edition	Lange	2018
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Authorized lectures			
		2.				
		3.				

1.	Title of the Course	HUMAN GENETICS			
2.	Code	3MF126712			
3.	Study Program	General medicine			
4.	Organizer of the study program (unit or institute, Faculty, department)	University Goce Delcev Faculty of medical sciences			
5.	Cycle (first, second and third cycle)	Integrated First and Second cycle			
6.	Academic year / semester	First year/ Second semester	7.	Number of credits	4
8.	Professor (s)	Prof. Darko Bosnakovski			
9.	Requirements for enrollment the Course				
10.	Purposes of the curriculum (competencies): Introduction to basic scientific knowledge of human genetics.				
11.	Content of the course program: The content of the curriculum: 1. Cytological basis of heredity. Morphology and physiology of the cell. Organization of DNA in chromosomes. 2. Structure and function of DNA and RNA , transcription, translation, replication. 3. Inheritance of properties-principles, gene interaction; Genes- structure and function genome, genotype, genetic code, alleles, and regulation of gene expression. 4. Structure and function of the chromosome. Genetic control of the cell cycle, mitosis and meiosis. 5. Autosomal and recessive inheritance, X linked inheritance, Non-Mendelian inheritance. 6. Numerical chromosomal aberrations: aneuploidy, heteroploidy. 7. Structural chromosomal aberration: deletions, duplications, translocations, inversions. 8. Mutations. Mutagenic factors. 9. Epigenetics. 10. The genetic basis of malignancy (cancer genetics). 11. Basic molecular biology and cytogenetic techniques (Polymerase chain reaction (PCR), RT-PCT, qPCR, Fluorescence in situ hybridization (FISH), western blot, southern blot, immunostaining, ELISA, DNA and RNA sequencing, RNAi, microarray) 12. Prenatal diagnosis of genetic disease: noninvasive and invasive methods. Genetic engineering.				
12.	Learning methods: Lectures, exercises, seminars, research and laboratory activities.				
13.	Total available time	24+24+12			
14.	Distribution of available time	2+2+1 / per week			
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	24 hours	
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	24 hours	
16.	Други форми на активности	16.1.	Project tasks	4 hours	
		16.2.	Individual tasks	4 hours	
		16.3.	Home learning	4 hours	
17.	Method of assessment				
	17.1.	Tests / oral exams			70 points
	17.2.	Seminars (paper / project - presentation: written and/or oral)			10 points
	17.3.	Activity and participation			20 points
18.	Assessment Criteria (points / score)		up 50 points	5	(five) (F)
			51 to 60 points	6	(six) (E)
			61 to 70 points	7	(seven) (D)
			71 to 80 points	8	(eight) (C)
			81 to 90 points	9	(nine) (B)
			91 to 100 points	10	(ten) (A)
19.	Signature requirement and passing the final exam		42 points acquired		
20.	Language of teaching / study		Macedonian		
21.	Method of monitoring the quality of teaching		Self-evaluation		

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	BASIC BIOCHEMISTRY 1			
2.	Code	3MF101712			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	Second year/ First semester	7.	Number of ECTS	5
8.	Professor (s)	Prof. Dr. Tatjana Ruskovska Prof. Dr. Biljana Gjorgjeska			
9.	Requirements for enrolling the course	None			
10.	<p>Aims of the course (competences): The main objective of this course is to provide students with knowledge on biochemistry of human body. Students will learn about micro- and macroelements in the human body, as well as the role of the water and electrolytes for normal cell function. This will be followed by detailed elaboration on chemical structure of proteins, lipids, carbohydrates and nucleic acids, which are of crucial importance for the cellular structure, functions and metabolism. Enzymes will also be elaborated in detail, including their chemical structure, catalytic function, and the mechanism of enzymatic reactions. The last two lectures will be focused on vitamins, their classification, chemical structures and functions.</p>				
11.	<p>Contents of the course (per 15 weeks per semester):</p> <ul style="list-style-type: none"> ▪ <u>Lectures</u> <ul style="list-style-type: none"> ○ Definition of biochemistry as a basic and applied science. ○ Water, electrolytes and buffers in the human body. ○ Amino acids – Chemical structure, classification and biological roles. ○ Peptides and proteins – Chemical structures, classification and biological functions. ○ Triglycerides and fatty acids – Chemical structures, classification and biological roles. ○ Phospholipids, glycolipids, steroids and carotenoids – Chemical structures, classification and biological roles. <ul style="list-style-type: none"> ▪ First colloquium ○ Monosaccharides – Chemical structures, classification and biological roles. ○ Oligosaccharides and polysaccharides – Chemical structures, classification and biological roles. ○ Enzymes – Chemical structure and function. ○ Enzymes – Mechanism and kinetics of enzymatic reactions. ○ Nucleotides and nucleic acids. ○ Hydrosoluble vitamins – Chemical structures and biological roles. ○ Liposoluble vitamins – Chemical structures and biological roles. <ul style="list-style-type: none"> ▪ Second colloquium ▪ <u>Laboratory work</u> <ul style="list-style-type: none"> ○ Introduction to the work in biochemistry laboratory, and lab safety. ○ Water and buffers in the human body. ○ Classification and structure of proteins, and analysis of their general chemical properties. ○ Identification of proteins with colored reactions. ○ Classification and structure of lipids, and analysis of their general chemical properties. ○ Identification of cholesterol and triglycerides with colored reactions. <ul style="list-style-type: none"> ▪ First colloquium ○ Classification and structure of monosaccharides, and analysis of their general properties. ○ Analysis of chemical properties of oligo- and polysaccharides. ○ Classification of enzymes, and analysis of their general properties ○ Mechanism and kinetics of enzymatic reactions. ○ Isolation of nucleic acids. ○ Identification of hydrosoluble vitamins. ○ Identification of liposoluble vitamins. <ul style="list-style-type: none"> ▪ Practical exam 				
12.	<p>Methods of learning:</p> <ul style="list-style-type: none"> ▪ <u>Lectures</u> <ul style="list-style-type: none"> ○ Lectures with large group of students. ○ Multimedia. ○ E-learning. ○ Individual consultations ○ Consultations with small groups of students ▪ <u>Laboratory work</u> <ul style="list-style-type: none"> ○ Laboratory practical work, with small groups of students 				

	<ul style="list-style-type: none"> ○ Seminars, with larger groups of students ○ Practical exam. 					
13.	Total amount of available time: 5 credits x 30 hours = 150 hours					
14.	Distribution of available time: 30+30+0+45+45 = 150 hours (2+2+0)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours		
16.	Other forms of activities	16.1	Projects	0 hours		
		16.2	Individual work	45 hours		
		16.3	Home learning	45 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five) (F)		
			51 to 60 points	6 (six) (E)		
			61 to 70 points	7 (seven) (D)		
			71 to 80 points	8 (eight) (C)		
			81 to 90 points	9 (nine) (B)		
		91 to 100 points	10 (ten) (A)			
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	David L. Nelson and Michael M. Cox	LEHNINGER, Principles of biochemistry	W.H. Freeman and Company, New York	2017
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Primary literature – Relevant scientific papers			

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	First Medical Aid				
2.	Code	3MF111112				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	II Semester – first year	7.	Number of ECTS	2	
8.	Professor (s)	Ass. Prof. Dr. Biljana Eftimova Ass. Prof. Dr Jasmin Ciriviri				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): learning the skills to save the life of wounded, and prevent the injury and complications, perform triage and provide first aid in mass disasters, learning the skills for heart, lung, and brain resuscitation					
11.	Contents of the course (per 15 weeks per semester): 1. Introduction to cardio- pulmonary resuscitation 2. Acute respiratory failure 3. Acute Cardiac Arrest (CA) 4. Basic life support 5. Advanced life support 6. Prolonged life support 7. First aid in poly-trauma and fracture					

	8. First aid in bleeding 9. First aid in burns; impact of current 10. First aid for frost bite, drowning 11. First aid for damage from acid 12. First aid and triage in mass disasters				
12.	Methods of learning: Theoretical and practical lectures				
13.	Total amount of available time: 2 ECTS x 30 h = 60 hours				
14.	Distribution of available time: 15+15+0+15+15(1+1+0)				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning		15 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		15 hours
16.	Other forms of activities	16.1	Projects		0 hours
		16.2	Individual work		15 hours
		16.3	Home learning		15 hours
17.	Method of assessment				
17.1	Tests / Oral Exam		70 scores		
	17.2 Individual work (presentation, projects, practical)		10 scores		
	17.3 Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
91 to 100 points	10 (ten)	(A)			
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course		
20.	Language of teaching / study		English		
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation		
22.	Literature				
	22.1	Basic literature			
No		Author	Title	Publisher	Year
1.		P. S. Auerbach	Medicine for the outdoors	. Elsevier	2008
2.					
3.					
22.2	Additional literature				
	No	Author	Title	Publisher	Year
	1.				
	2.				
	3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	BASICS OF CLINICAL PRACTICE 1				
2.	Code	3MF108112				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	II Semester – first year	7.	Number of ECTS	5	
8.	Professor (s)	Andon Cibisev Biljana Ilievska Ivica Smokovski Valentina Velkovska Nakova Gordana Kamceva Ivana Trajkovska Igor Nikolov				
9.	Requirements for enrolling the course	None				

10.	Aims of the course (competences): The purpose of this course is to introduce students to medical history, all parts of it, how to communicate with patients, how to access and establish good doctor-patient communication. Students will also learn how to take good anamnesis of their patients and to take good care of them. They will be able to follow the course of the disease and how to complete the treatment by giving a completed document - discharge letter. All theoretical knowledge that students will gain in this course will be tested and validated by practical exercises.					
11.	Contents of the course (per 15 weeks per semester):					
	<ul style="list-style-type: none"> ▪ Introduction to clinical practice ▪ Communication with the patient ▪ Communication skills in clinical practice ▪ Approach to the patient from the student perspective ▪ Medical history ▪ Medical history in specific situations ▪ Anamnesis ▪ The course of the disease ▪ Treatment ▪ Discharge letter 					
12.	Methods of learning: Lectures, exercises, seminars, research and practical activities					
13.	Total amount of available time: 150					
14.	Distribution of available time: 30+30+0+45+45=150					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours		
16.	Other forms of activities	16.1	Projects	0 hours		
		16.2	Individual work	45 hours		
		16.3	Home learning	45 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five)	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation Minimum of 42points gained through the attendance and active participation on the theoretical, practical work, individual activities and tests.			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	M.Vavlukis	Basic of Clinical Practice	UGD-Stip	2014
		2.	M.Vavlukis G.Kamceva	Practicum with general guidelines for clinical examination of an internistically ill patient	UGD-Stip	2015
		3.	Robert E.Rakel	family medicine textbook	Tabernakul	2010
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	V.Serafimovski with associates	Internal Medicine Clinical Trials - Internal Propedeutics	University Ss. Ciril and Methodius - Skopje	2004
		2.	K.P.Seturaman	Communication skills in clinical practice	Tabernakul	2009

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	ANATOMY 3			
2.	Code	3MF100412			
3.	Study program	Medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	III Semester – second year	7.	Number of ECTS	7
8.	Professor (s)	Associate Professor Svetlana Jovevska			
9.	Requirements for enrolling the course	recorded first semester			
10.	Aims of the course (competences): Objectives of the curriculum (competencies): Introduction to the anatomy of the head and neck organs in the head and neck, central nervous system and their interconnection.				
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ The content of the curriculum: <ul style="list-style-type: none"> 1. Miologia of the head 2. Miologia of the neck 3. Arteries of the head and neck 4. Venous vessels in the head and neck 5. Lymphatic vessels in the head and neck 6. Cranial nerves-number nomenclature ratios 7. Fourth cranial nerve-inervacional areas 8. Bodies of head and neck-topography ratios 9. Endocrine glands 10. Organs of the digestive system in head and neck 11. Organs of the respiratory system in head and neck 12. Sensory organ, eye and ear 13. Nervous system, construction, types of nerve fibers division of the nervous system, ventricular system 14. spinal cord rombust brain, midbrain, 15. between brain, a brain membranes of brain ▪ 1. Miologia of the head ▪ 2. Miologia of the neck ▪ 3. Arteries of the head and neck ▪ 4. Venous vessels in the head and neck ▪ 5. Lymphatic system of the head and neck ▪ 6. Kranial and spinal nerves ▪ 7. Mouth ▪ 8. Organs of the digestive system located in the head and neck ▪ 9. Organs of the respiratory system located in the head and neck ▪ 10. Nasal cavity-anatomical parts, structure, function ▪ 11. Endocrine glands-topography ratios ▪ 12. Eye-anatomy, proportion, anatomy of orbit ▪ 13. ear-anatomy, relationships with other agencies ▪ 14. Senses of taste, smell, touch and balance ▪ 15. Autonomic nervous system-anatomical division function 				
12.	Methods of learning: Interactive classes, individual consultations with students				
13.	Total amount of available time: 178				
14.	Distribution of available time: 152 / 3+2+1 / 36+36+12 / per week				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	36 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	24 hours	
16.	Other forms of activities	16.1	Projects hours	
		16.2	Individual work	1 hours	
		16.3	Home learning	4 hours	
17.	Method of assessment				
17.1	Tests / Oral Exam		70 scores		
17.2	Individual work (presentation, projects, practical)		10 scores		
17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)

		71 to 80 points	8 (eight)	(C)
		81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year		Attendance at lectures at least 7 (60%) continuous checks lectures and 10 tutorials for Final Exam Scored 42 points and laid continuous checks.	
20.	Language of teaching / study		English	
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation	
22.	Literature			
	22.1	Basic literature		
		No	Author	Title
		1.	A. Kargovska-Klisarova, J.. Joseph	Anatomy of human- General part
		2.	A. Kargovska-Klisarova, J.. Joseph	Anatomy of man- Head and Neck
		3.	A. Kargovska-Klisarova, J.. Joseph	Anatomy of man- central nervous system and sensory organs
	22.2	Additional literature		
		No	Author	Title
		1.	Sinelnikov	Anatomical Atlas of man (I, II, III part)
		2.	F.N. Netter	Atlas of human anatomy
		3.		

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	HISTOLOGY AND EMBRIOLOGY 2			
2.	Code	3MF104012			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	III Semester – second year	7.	Number of ECTS	7
8.	Professor (s)	Dzengis Jasar, Vanja Filipovski, Katerina Kubelka-Sabit			
9.	Requirements for enrolling the course				
10.	Aims of the course (competences): The purpose of this course is to introduce students to the histological structure of all tissues and organ systems. By studying this course, students will gain basic knowledge in the field of Histology and Embryology as an inevitable prerequisite for mastering some subsequent subjects or modules, such as Pathology and Pathophysiology. All the theoretical knowledge in this course, the students check and determine with practical laboratory work and exercises.				
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> • Cardiovascular system • RES • Respiratory system • Urogenital system • Nervous system • Endocrine system 				
12.	Methods of learning: theoretical instruction, practical exercises, seminar work				
13.	Total amount of available time: 7 ECTS x 30 hours = 210 hours				
14.	Distribution of available time: 45+45+15+15+60 = 210 hours				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning		45 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		45 hours
16.	Other forms of activities	16.1	Projects		15 hours
		16.2	Individual work		15 hours
		16.3	Home learning		60 hours

17.	Method of assessment					
	17.1	Tests / Oral Exam	70 scores			
	17.2	Individual work (presentation, projects, practical)	10 scores			
	17.3	Activity and participation	20 scores			
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five)	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Luiz Carlos Junqueira, Jose Carneiro	Basic Histology : Text and Atlas 10th edition Edition	Lange	2002
2.		Mecher	Junqueira's Basic Histology: Text and Atlas 15th Edition	Lange	2018	
		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Authorized lectures			
		2.				
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	PHYSIOLOGY 1				
2.	Code	3MF103612				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	III Semester – second year	7.	Number of ECTS	7	
8.	Professor (s)	Ass prof Zoran Handjiski				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): The students should be acquired the knowledge of basic principals in the field of human physiology. The accent is put on the characteristics and function of organs and organic systems.					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Introduction of physiology: functional organization of human body and control of the internal environment ▪ Physiology of cell: The cell and its functions; Genetic control of protein synthesis and cell reproduction ▪ Membrane physiology, nerve and muscle: Transport of substances through cell membrane; membrane potentials and action potentials; Excitation and contraction of skeletal muscle; Excitation and contraction of smooth muscle; 					

	<ul style="list-style-type: none"> ▪ The heart: The heart as pump and function of heart valves; Rhythmical excitation of the heart; Normal electrocardiogram ▪ The circulation: Biophysics of pressure, flow and resistance; Vascular distensibility and functions of the arterial and venous systems; The microcirculation and lymphatic system; Local and humoral control of tissue blood flow; Nervous regulation of the circulation and rapid control of arterial pressure; Role of the kidneys in long-term control of arterial pressure; Cardiac output, venous return and their regulation; Muscle blood flow and cardiac output during exercise; Coronary circulation; heart valves and heart sounds ▪ Blood cells, immunity and blood coagulation: Red blood cells; Resistance of the body to infection (leukocytes, granulocytes, monocyte-macrophage system and inflammation); Resistance to body to infection (immunity); Blood types; Hemostasis and blood coagulation ▪ Respiration: Pulmonary ventilation; Pulmonary circulation; Principles of gas exchange; Transport of oxygen and carbon dioxide in blood and tissue fluids; Regulation of respiration ▪ Nervous system: general principles and sensory physiology; Organization of the nervous system, basic functions of synapses and neurotransmitters; Sensory receptors, neuronal circuits for processing information; Somatic sensation I – general organisation, the tactile and position senses; Somatic sensation II – pain, headache and thermal sensations 					
12.	Methods of learning: lectures, consultations, single-handed learning, participating in handwork of theme, exercise in laboratory (demonstration, individual, participating in group)					
13.	Total amount of available time: 7 ECTS x 30 hours = 210 hours					
14.	Distribution of available time: 45 + 45 + 15 + 15 + 90 = 210 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning (15 weeks x 3 hours)	45 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work) 15 weeks x 3 hours	45 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	15 hours		
		16.3	Home learning	90 hours		
17.	Method of assessment					
	17.1	Tests (2 colloquies x 20 scores)		40 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
	17.4	Final exam (theoretical and practical)		30 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course		
20.	Language of teaching / study			English		
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation		
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Arthur C. Guyton and Hall	Textbook of Medical Physiology	Elsevier	2016
		2.	Rodney A. Rhoades, David R.Bell	Medical Physiology	Wolters Kluwer	2018
		3.	Dee Unglaub Silverthorn	Human Physiology	Pearson Education Limited	2019
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Walter F. Boron; Emile L. Boulpaep	Medical Physiology	Elsevier	2017
		2.	Gilian Pocock, Christopher D., Richards, David A. Richards	Human Physiology	Oxford University Press	2018
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	BASICS OF CLINICAL PRACTICE 2			
2.	Code	3MF108212			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	III Semester – second year	7.	Number of ECTS	4
8.	Professor (s)	Andon Cibisev Biljana Ilievska Ivica Smokovski Valentina Velkovska Nakova Gordana Kamceva Ivana Trajkovska Igor Nikolov			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): The aim of this course is to provide students with the techniques of good clinical examination, both general and patient examination by separate systems: head and neck, thoracic chest with lungs, heart and blood vessel, abdomen, urogenital and locomotor system. They will also have the opportunity to become familiar with the basic diagnostic methods used in making a diagnosis of a particular disease. All theoretical knowledge that students will gain in this course is tested and validated by practical exercises.				
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ General physical examination ▪ Vital signs ▪ Special physical examination - head and neck ▪ Special physical examination - chest and lungs ▪ Special physical examination - heart and blood vessels ▪ Special physical examination - abdomen ▪ Special physical examination - urogenital system ▪ Special physical examination - locomotor system ▪ Basic diagnostic methods 				
12.	Methods of learning: Lectures, exercises, seminars, research and practical activities				
13.	Total amount of available time: 120				
14.	Distribution of available time: 30+15+15+30+30=120				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours	
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	30 hours	
		16.3	Home learning	30 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam	70 scores		
	17.2	Individual work (presentation, projects, practical)	10 scores		
	17.3	Activity and participation	20 scores		
18.	Assessment Criteria (scores/ points)	up to 50 points	5	(five).	(F)
		51 to 60 points	6	(six)	(E)
		61 to 70 points	7	(seven)	(D)
		71 to 80 points	8	(eight)	(C)
		81 to 90 points	9	(nine)	(B)
		91 to 100 points	10	(ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year	60% active participation at the course			
20.	Language of teaching / study	English			
21.	Methods of measuring / monitoring the quality of teaching	Standardized motor tests, observation, survey Self-evaluation			

		Minimum of 42 points gained through the attendance and active participation on the theoretical, practical work, individual activities and tests.				
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	M.Vavlukis	Basic of Clinical Practice	UGD-Stip	2014
		2.	M.Vavlukis G.Kamceva	Practicum with general guidelines for clinical examination of an internistically ill patient	UGD-Stip	2015
		3.	G.Kamceva M.Vavlukis	Clinical Trial - Internist Aspects of Adult Patient Examination	UGD-Stip	2019
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	V.Serafimivski with associates	Internal Medicine Clinical Trials - Internal Propedeutics	University Ss. Ciril and Methodius – Skopje	2004
		2.	K.P.Seturaman	Communication skills in clinical practice	Tabernakul	2009
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	BASIC BIOCHEMISTRY 2			
2.	Code	3MF100912			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	III Semester – second year	7.	Number of ECTS	5
8.	Professor (s)	Prof. Dr. Tatjana Ruskovska Prof. Dr. Biljana Gjorgjeska			
9.	Requirements for enrolling the course	None			
10.	<p>Aims of the course (competences):</p> <p>The main objective of this course is to provide students with basic understanding of cell signaling, and detailed knowledge on cell metabolism and bioenergetics. Students will learn in detail the metabolism of carbohydrates in both aerobic and anaerobic conditions, which will be followed by detailed elaboration on cellular lipid metabolism and metabolism of plasma lipoproteins. The final lectures will be focused on metabolism of proteins, amino acids, porphyrins and nucleic acids.</p> <p>Within the practical part of the course, the focus is on the laboratory techniques and methods that are applied in the research in cell biochemistry, such as fractional centrifugation, electrophoresis, chromatography, spectrophotometric and immunochemistry analyses of proteins, and some of the biomarkers for DNA damage and oxidative stress.</p>				
11.	<p>Contents of the course (per 15 weeks per semester):</p> <ul style="list-style-type: none"> ▪ Lectures <ul style="list-style-type: none"> ○ Biological membranes and transport. ○ Basic principles of biosignaling. ○ Introduction to bioenergetics and metabolism. Glycolysis. ○ Gluconeogenesis and pentose phosphate pathway. ○ Basic principles of metabolic regulation. ○ Metabolism of the glycogen. ○ Metabolic transformations of pyruvate. The citric acid cycle. <ul style="list-style-type: none"> ▪ First colloquium ○ Mitochondrial respiratory chain and oxidative phosphorylation. ○ Catabolism of triglycerides and beta-oxidation of fatty acids. Biosynthesis of ketones. ○ Biosynthesis of fatty acids, phospholipids and sterols. Prostaglandins. 				

	<ul style="list-style-type: none"> ○ Metabolism of plasma lipoproteins. ○ Metabolism of proteins. Metabolism of amino acids. ○ Metabolism of porphyrins. Metabolism of nucleotides. <ul style="list-style-type: none"> ▪ Second colloquium ▪ <u>Laboratory work</u> <ul style="list-style-type: none"> ○ Enzyme cofactors. ○ Cell biochemistry as an experimental science – specificity of the research in cell biochemistry. ○ Basic methods and techniques in the cell biochemistry research. ○ Hydrodynamic methods in cell biochemistry. ○ Separation and analysis of plasma lipoproteins. ○ Principles of agarose gel electrophoresis. ○ Horizontal electrophoresis of plasma LDL fraction on agarose gel. <ul style="list-style-type: none"> ▪ First colloquium ○ Principles of the methods for evaluation of DNA damage. ○ Horizontal electrophoresis of single cells on agarose gel – Comet assay. ○ Spectrophotometric and immunochemistry methods for analysis of proteins. ○ Separation of proteins with SDS-PAGE electrophoresis. ○ Chromatographic methods for analysis of biological samples. ○ Biomarkers of oxidative stress. Analysis of the level of lipid peroxidation and the total antioxidant status. <ul style="list-style-type: none"> ▪ Practical exam 				
12.	Methods of learning: <ul style="list-style-type: none"> ▪ <u>Lectures</u> <ul style="list-style-type: none"> ○ Lectures with large group of students. ○ Multimedia. ○ E-learning. ○ Individual consultations ○ Consultations with small groups of students ▪ <u>Laboratory work</u> <ul style="list-style-type: none"> ○ Laboratory practical work, with small groups of students ○ Seminars, with larger groups of students ○ Practical exam. 				
13.	Total amount of available time: 5 credits x 30 hours = 150 hours				
14.	Distribution of available time: 30+30+0+45+45 = 150 hours (2+2+0)				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours	
16.	Other forms of activities	16.1	Projects	0 hours	
		16.2	Individual work	45 hours	
		16.3	Home learning	45 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam		70 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
			91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course		
20.	Language of teaching / study		English		
21.	Methods of measuring / monitoring the quality of teaching		Standardized tests, observation, survey Self-evaluation		
22.	Literature				
	22.1	Basic literature			
		No	Author	Title	Publisher
		1.	David L. Nelson and Michael M. Cox	LEHNINGER, Principles of biochemistry	W.H. Freeman and Company, New York
	22.2	Additional literature			

No	Author	Title	Publisher	Year
1.	Primary literature – Relevant scientific papers			

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	PHYSIOLOGY 2				
2.	Code	3MF103212				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	IV Semester – second yea	7.	Number of ECTS	7	
8.	Professor (s)	Ass prof Zoran Handjiski				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): The students should be acquired the knowledge of basic principals in the field of human physiology. The accent is put on the characteristics and function of organs and organic systems.					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ The body fluids and kidneys: The body fluid compartments (ECF and ICF); Functional anatomy and urine formation by the kidneys; Glomerular filtration, renal blood flow and their control; Renal tubular reabsorption and secretion; Urine concentration and dilution; Regulation of ECF osmolality and sodium concentration; Renal regulation of potassium, calcium, phosphate and magnesium; Integration of renal mechanisms for control of blood volume and extracellular fluid volume; Acid-base regulation ▪ Nervous system – Special senses: The eye (optic of vision, receptor and neural function, central neurophysiology of vision); The sense of hearing; The chemical Senses (taste and smell) ▪ Nervous system- Motor and integrative neurophysiology: Motor functions of the spinal cord and cord reflexes; Cortical and brain stem control of motor function; Contributions of cerebellum and basal ganglia to overall motor control; Cerebral cortex, intellectual functions of the brain, learning and memory; Behavioral and motivational mechanisms of the brain (the limbic system and the hypothalamus); States of brain activity (sleep, brain waves); Autonomic nervous system and adrenal medulla; Cerebral blood flow, cerebrospinal fluid and brain metabolism ▪ Gastrointestinal physiology: General principles (motility, nervous control and blood circulation); Propulsion and mixing of food in the alimentary tract; Secretory functions of the alimentary tract; Digestion and absorption in gastrointestinal tract ▪ Metabolism and temperature regulation: Metabolism of carbohydrates and formation of ATP; Lipid metabolism; Protein metabolism; The liver as an organ; Dietary balances (regulation of feeding, vitamins and minerals; Energetics and metabolic rate; Body temperature regulation ▪ Endocrinology and reproduction: Introduction to endocrinology; Pituitary hormones and their control by the hypothalamus; Thyroid metabolic hormones; Adrenocortical hormones; Insulin and glucagon; Parathyroid hormones, calcitonin, calcium and phosphate metabolism, vitamin D, bone, teeth; Reproductive and hormonal functions of the male and function of pineal gland; Female physiology before pregnancy and female hormones; Pregnancy and lactation; Fetal and neonatal physiology ▪ Sport physiology 					
12.	Methods of learning: lectures, consultations, single-handed learning, participating in handwork of theme, exercise in laboratory (demonstration, individual, participating in group)					
13.	Total amount of available time: 7 ECTS x30 hours = 210 hours					
14.	Distribution of available time: 45 + 45 + 15 + 15 + 90 = 210 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning (15 weeks x 3 hours)	45 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work) 15 weeks x 3 hours	45 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	15 hours		
		16.3	Home learning	90 hours		
17.	Method of assessment					
	17.1	Tests (2 colloquies x 20 scores)		40 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		

	17.3	Activity and participation	20 scores			
	17.4	Final exam (theoretical and practical)	30 scores			
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
	91 to 100 points	10 (ten)	(A)			
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Arthur C. Guyton and Hall	Textbook of Medical Physiology	Elsevier	2016
		2.	Rodney A. Rhoades, David R.Bell	Medical Physiology	Wolters Kluwer	2018
		3.	Dee Unglaub Silverthorn	Human Physiology	Pearson Education Limited	2019
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Walter F. Boron; Emile L. Boulpaep	Medical Physiology	Elsevier	2017
		2.	Gilian Pocock, Christopher D., Richards, David A. Richards	Human Physiology	Oxford University Press	2018
		3.				

Annex No.3	Program of the Course for integrated First and Second cycle					
1.	Title of the Course	MICROBIOLOGY 1				
2.	Code	3MF101412				
3.	Study Program	General medicine				
4.	Organizer of the study program (unit or institute, Faculty, department)	University "Goce Delcev" Shtip Faculty of Medical sciences Department of Microbiology				
5.	Cycle (first, second and third cycle)	Integrated First and Second cycle				
6.	Academic year / semester	IV Semester – second year	7.	Number of credits	6	
8.	Professor (s)	Prof. d-r Vaso Taleski, MD, D-r Sc. Ass. prof. d-r Golubinka Boshevska, MD, D-r Sc.				
9.	Requirements for enrolment the Course	None				
10.	Purposes of the curriculum (competencies): Basic aim of the course program is to introduce and enable students to acquire theoretical, practical knowledge, skills and competences in field of general microbiology					
11.	Contents of the course program <ul style="list-style-type: none"> 1. Introduction of history and development of microbiology science, most important inventions, significance of microorganisms. Classification of bacteria, taxonomic categories, nomenclature, size, shape and disposition of bacteria 2. Morphology and structure of bacterial cells: capsule, cell wall, cytoplasmic membrane, cytoplasm and cytoplasmic inclusions, fimbria and pili, flagellum 3. Bacterial spores, bacterial movement. Conditions for growth and multiplication, growth phases, bacterial colonies 4. Chemical composition of bacteria, metabolism, mechanism of bacterial feeding, metabolism of energy: fermentation, respiration, photosynthesis 5. Metabolism of nucleic acids. DNA replication. Nucleic acids decomposition 6. Bacterial genetics. Bacterial variations: phenotype and genotype variations 7. Gene transfer: conjugation, transformation, transduction 8. Spreading of microorganisms. Ecology of microorganisms. Associations between microorganisms. Association between microorganisms and high live organisms. 					

	<p>9. Pathogenicity and virulence. Nonspecific and specific immunity in humans. Antigen-antibody reactions. Immunotherapy and immune-prophylaxis.</p> <p>10. Sterilization and disinfection. Antibiotics and chemotherapeutics. Antibiotics groups according mechanism of action. Microorganism's resistance toward antibiotics. Side effects of chemotherapeutics.</p> <p>11. Infections and infective diseases. Microbiological aspects of hospital infections.</p> <p>12. Morphology, structure, classification and multiplication of viruses, fungi and parasites</p> <p>Contents of practical program</p> <ol style="list-style-type: none"> Principles of safety work in microbiology laboratory Sampling, packaging and delivering samples for microbiology testing Microscope and microscopic examinations of microorganisms (light microscope, fluorescence microscope, electron microscope) Staining of microorganisms (Gram, Giemsa, Ziehl-Neelsen, Cold staining of mycobacterium) Culture media and bacterial cultivation Identification of bacteria (classical biochemical reactions, automatic systems for identification) Antibiotic susceptibility testing of bacteria/antibiogram (classical diffusion and dilution methods, automatic systems, E-test) Classical serologic reactions. Rapid tests Immune-enzymes methods (ELISA, VIDAS) Hemocultures Sterilization Disinfection 			
12.	Learning methods: Methods of oral and visual learning/presentations and practical work in the lab.			
13.	Total available time		180 hours	
14.	Distribution of available time		3+2+1 per week	
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	40 hours
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	40 hours
16.	Други форми на активности	16.1.	Project tasks	10 hours
		16.2.	Individual tasks	10 hours
		16.3.	Home learning	60 hours
17.	Method of assessment			
	17.1.	Tests		40 points
	17.2.	Seminars (paper / project - presentation: written and/or oral)		10 points
	17.3.	Activity and participation during lecturing		10 points
	17.4	Activity and participation during lab practical work		10 points
18.	Assessment Criteria (points / score)		up 50 points	5 (five) (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)
19.	Signature requirement and passing the final exam		<p>Requirements for signature: presence at lecturing and practical work.</p> <p>Requirements for final exam: at least 42 points from two colloquia, presence at lecturing, practical lab work and seminars (paper/project - presentation. Colloquia are not conditionally connected. For students with points over 37 and less than 42, professor could organize additional colloquium with maximum of 10 additional points</p>	
20.	Language of teaching / study		English	
21.	Method of monitoring the quality of teaching		Student evaluation Self-evaluation	

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	IMMUNOLOGY			
2.	Code	3MF100712			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	IV Semester – second year	7.	Number of ECTS	4
8.	Professor (s)	Sotirija Duvlis			
9.	Requirements for enrolling the course	None			
10.	<p>Aims of the course (competences): By mastering the curriculum content of this course, students will become acquainted with the basic concepts and components of the immune system and how it functions. The immune system is the one that attacks all that is alien and defends the organism from non-infectious and infectious antigens. Students will gain knowledge of the various components of the immune system (innate and acquired immunity), which are the cells and the main mediators involved in the immune system as foreign bodies are represented on the the immune system (concept of the antigen), as processed, humoral and cellular immune response, what are the antibodies, and the basics of the concepts for hypersensitivity reactions, autoimmune diseases, immunodeficiency conditions (congenital and acquired), immune response to tumors and the immunological basis of transplantation. Through hands-on instruction students will be introduced to the basic methods of examining the immunology and principles of agglutination, precipitation, electrophoresis, flow cytometry, ELISA, and immunocytochemistry immunofluorescent staining, basic techniques of tissue cell isolation, determination of blood groups</p>				
11.	<p>Contents of the course Theoretical instruction: 1. Introduction to Immunology 2. Cells, tissues and organs involved in the immune system 3. Inborn and acquired immunity 4. Antigens and antibodies 5. Antibody acquisition, generation and presentation 6. Cellular immunity and humoral immunity 7. Cytokines and complement system 8. Immune tolerance. Autoimmune diseases 9. Immune response to non-infectious antigens. Chancellor. 10. Hypersensitivity reactions 11. Immunodeficiency Transplant and transplant antigens Practical instruction: 1. Introduction to immunology, general terms and definitions. 2. Immune system cells and their isolation. 3. Lymphoid organs and tissues. 4. Microscopic preparations of lymphoid tissues and organs and recognition of their structural components. 5. Techniques for isolating and purifying antigens and antibodies. Immunochemical and Immuno-Physical-Chemical Methods (Column Chromatography, Ion-exchange Chromatography, Gel Filtration, Affinity Chromatography). 6. Different types of immune reactions, antigen-antibody interactions. Reactions of agglutination. Determination of blood groups. 7. Immunoprecipitation reactions. 8. Immunoelectrophoresis. Nothern and Western blot. 9. Immunoassays using a marker (RIA, ELISA). 10. Immunofluorescence. Immunocytochemistry and immunofluorescent staining. 11. Principles of flow cytometry. 12. Vaccines - characteristics, types, ways of getting them</p>				
12.	Methods of learning: Lectures, group discussion methods, team-based learning and problem-based learning, auditory and laboratory exercises, individual assignments, project tasks.				
13.	Total amount of available time: 4 ECTS x 30 hours = 120 hours				
14.	Distribution of available time: 30+15+15+10+50 = 120 hours				

15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	10 hours		
		16.3	Home learning	50 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam	70 scores			
	17.2	Individual work (presentation, projects, practical)	10 scores			
	17.3	Activity and participation	20 scores			
18.	Assessment Criteria (scores/ points)	up to 50 points	5 (five).	(F)		
		51 to 60 points	6 (six)	(E)		
		61 to 70 points	7 (seven)	(D)		
		71 to 80 points	8 (eight)	(C)		
		81 to 90 points	9 (nine)	(B)		
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year	60% active participation at the course				
20.	Language of teaching / study	English				
21.	Methods of measuring / monitoring the quality of teaching	Standardized motor tests, observation, survey Self-evaluation				
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Thomas J. Kindt, Barbara A. Osborne , Richard A. Goldsby	Kuby	W. H. Freeman & Company; 6th edition (August 15, 2006 bloackwell)	2006
		2.	Helen Chapel, Mansel Haeney, Siraj Misbah, Neil Snowden	Essentials of Clinical Immunology	Wiley & sons	2014
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Wild, D. (ed) Saunders	Immunoassay Handbook (4th ed.).	The Elsevier Science Ltd.	2013
		2.	Abbas, A., Lichtman, A.H., Pillai. S.	Basic Immunology: Functions and disorders of the immune system (4th ed)	Elsevier, Philadelphia	2012

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	PHARMACOLOGY AND TOXICOLOGY 1				
2.	Code	3MF113012				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	IV Semester – second year	7.	Number of ECTS	4	
8.	Professor (s)	Marija Darkovska Serafimovska				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): To introduce students with basic pharmacokinetic (absorption, distribution, metabolism and elimination of medicines) and pharmacodynamic processes in the human organism, the mechanism of action of drugs, factors that determine safety and efficacy, dosing and factors affecting dosing of medicines, interactions and side effects of medications					
11.	Contents of the course (per 15 weeks per semester):					

	<ul style="list-style-type: none"> ▪ Basic pharmacology ▪ Pharmacokinetics ▪ Absorption of medicines ▪ Distribution of medicines ▪ Elimination of medicines ▪ Pharmacodynamics ▪ Mechanism of action of medicine ▪ Factors that affect the actions of medicines ▪ General terms of accumulation and tolerance ▪ Interaction between medicines ▪ Side effects of medicines ▪ Addiction to medicines 					
12.	Methods of learning: Lectures, exercises, project assignments, discussion, debate and individual assignments					
13.	Total amount of available time: 4 EKTC x 30 = 120 hours					
14.	Distribution of available time: 30+15+15+30+15 = 120 hours (2+1+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning (15 weeks x 2 = 30)	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work) (15 weeks x 1 = 15)	15 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	30 hours		
		16.3	Home learning	30 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Rang HP, Dale MM, Ritter JM, Moore PK	PHARMACOLOGY	Churchill Livingstone	London, 2005
		2.				
		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Goodman & Gilman's	The Pharmacological basis of Therapeutics;		last edition
		2.				
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	HYGIENE WITH MEDICAL ECOLOGY			
2.	Code	3MF120912			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	IV Semester – second year	7.	Number of ECTS	4
8.	Professor (s)	Associate professor Nevenka Velickova PhD			
9.	Requirements for enrolling the course	None			
10.	<p>Aims of the course (competences): The aims of this subject is for the students to gain basic knowledge from the area of medical ecology, the protection of the environment and hygiene. The course starts with two sessions about the basic concepts and principles of hygiene and environmental health. The next section covers good hygiene practice at personal, household and communal levels. Part 2 covers water and waste. The water sessions describe the importance of having water that is safe to drink, the sources and treatment of water, the protection of drinking water and how can assess the status of water provision.</p>				
11.	<p>Content of the course program:</p> <ul style="list-style-type: none"> • Introduction to ecology • Public health aspect of environment risks • Air pollution and public health aspect of air pollution • Water hygiene and public health aspect of water supply and sanitation • Public health aspect of surface water and swimming and recreation water • Public health aspect of waist; public health aspect of soil • Public health aspect of school hygiene • Public health aspect of ionizing and nonionizing radiation • Health-ecological aspects of noise • Hygiene in public and communal facilities • Education facilities hygiene • Health facilities hygiene 				
12.	<p>Methods of learning: Lectures, exercises, seminars research and practical activities</p>				
13.	<p>Total amount of available time: 120 (30+15+15+30+30)</p>				
14.	<p>Distribution of available time: 2+1+1 / per week</p>				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours	
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	30 hours	
		16.3	Home learning	30 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam		70 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course		
20.	Language of teaching / study		English		
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation		

22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Prof. P. Gatseva, MD, PhD	Hygiene and Medical Ecology	Lax Book	2016
		2.	Herman Koren, Michael S. Bisesi	Handbook of Environmental Health, Two Volume Set 4th Edition	CRC Press	2018
		3.	Hoffman D. J. Et al.	Handbook of Ecotoxicology. 2nd ed.	Lewis Publishers, A CRC Press Company	2003
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Shibanov S.E.	General Hygiene and Medical Ecology, TEXTBOOK for Students of Medical Faculties	Ministry of Education & Science of The Russian Federation Crimean Federal University	2018
		2.	Show LM, Kwong TC et al.	The clinical toxicology laboratory: contemporary practice of Poisoning evaluation.	. Washington: AACC Press,	2001

Program of the Course for Integrated First and Second cycle					
1.	Title of Course	Social Medicine			
2.	Code				
3.	Study program	General Medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	First year/ First or second semester	7.	Number of ECTS	3
8.	Professor (s)	Assistant Professor PhD MSc. MD Valentina Simonovska			
9.	Requirements for enrolling the course	None			
10	Aims of the course (competences): Getting familiarized with Social Medicine as a science, organization of Healthcare, socio-medical aspect of health.				
11	Contents of the course (per 15 weeks per semester): <ol style="list-style-type: none"> 1. Evolution of Social Medicine and healthcare 2. Factors that impact the health of the population 3. Analyzing the health condition of the population 4. Methods for observing events and data gathering 5. Organization of healthcare and healthcare systems 6. Healthcare and welfare for certain population types 7. Characteristics of acute infectious diseases of socio-medical importance 8. Characteristics of chronic mass non-transferrable diseases – Part I 9. Characteristics of chronic mass non-transferrable diseases – Part II 10. Characteristics of addiction diseases 11. Characteristics of juvenile delinquency 12. Methods and means in health-education practice 				

12	Methods of learning:			
.	- interactive classes, individual learning with educational tools, e-learning			
13	Total amount of available time:			
.	3 ECTS * 30 hours = 90 hours			
14	Distribution of available time:			
.	30+15+0+30+15 = 90 hours (2+1+1)			
15	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning (15 weeks * 2 hours = 30 hours)	30 hours
.		15.2	Exercises (practical, laboratory, theoretical, seminars, team work) (15 weeks * 1 hour = 15 hours)	15 hours
16	Other forms of activities	16.1	Projects	0 hours
.		16.2	Individual work	30 hours
		16.3	Home learning	15 hours
17	Method of assessment			
	17.1	Tests / Oral Exam		70 scores
	17.2	Individual work (presentation, projects, practical)		10 scores
	17.3	Activity and participation		20 scores
18	Assessment Criteria (scores/ points)		up to 50 points	5 (five). (F)
.			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)

19	Signature approval and entrance to the final exam/ or transition in the next year	Attendance of classes and a minimum of 42 points from all pre-exam activities.				
20	Language of teaching / study	English				
21	Methods of measuring / monitoring the quality of teaching	Standardized motor tests, observation, survey Self-evaluation				
22	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	S. Sharma	Preventive and social medicine	Elsevier	2005
		2.	Doncho Donev, Mome Spasovski and others.	Social Medicine	UKIM, Faculty of Medicine	2013
		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Doncho Donev, Gordana Pavlekovic, Lijana Zaletel Krage	Pavlekovic, Lijana Zaletel Krage Health promotion and disease prevention		2007
		2.				
		3.				

Program of the Course for Integrated First and Second cycle					
1.	Title of Course	MEDICAL ETHICS			
2.	Code	3MF121712			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	The second semester	7.	Number of ECTS	2
8.	Professor (s)	Ass. Prof Natasha Davcheva			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): Introduction into the elementary principles of ethics and the relationship between the physician and the patient.				
11.	Contents of the course (per 15 weeks per semester): Theoretical Considerations Decision Making, Fallibility, and the Problem of Blameworthiness in Medicine Doctors and Their Patients, Patients and Their Doctors The Ongoing Dialectic between Autonomy and Responsibility The Physician as Citizen Physicians and Patients in a Pluralist World Risk Taking: Health Professionals and Risk Organ Donation Problems in the Care of the Terminally Ill Problems at the Beginning of Life Problems of Macro-Allocation “Solving” Ethical Problems Medical negligence				
12.	Methods of learning: Lectures 15 hours (15 weeksx1hours=15 hours) Laboratory Practice 15 h (15 weeks x1h=15h) Project task 0h Independent task 15h Home studying 15h				
13.	Total amount of available time: 2x30=60 hours (1+1+0)				
14.	Distribution of available time: 15+15+0+15+15=120 hours (1+1+0)				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	15 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours	
16.	Other forms of activities	16.1	Projects	0 hours	
		16.2	Individual work	15 hours	
		16.3	Home learning	15 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam		70 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course		
20.	Language of teaching / study		English		
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation		

22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Erich H. Loewy	Textbook of medical ethics	Springer Plenum Medical book company New York and London	1989
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.				
		2.				
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	PATHOLOGY 1				
2.	Code	3MF102812				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	V Semester – third year	7.	Number of ECTS	6	
8.	Professor (s)	Dzengis Jasar, Vanja Filipovski, Katerina Kubelka-Sabit				
9.	Requirements for enrolling the course	Taught lectures from Anatomy 3 and Histology and Embriology 2				
10.	Aims of the course (competences): Introduction to the etiology, pathogenesis and morphological changes in the cells and tissues of the organism under the influence of pathological agents and their diagnostics using morphological, routine macroscopic, microscopic and modern molecular techniques. Introduction to the basic cellular and tissue responses to damage caused by various causes.					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Theoretical instruction: <ul style="list-style-type: none"> ○ Cellular damage, adaptations and death ○ Hemodynamic disorders, thrombosis and shock ○ Acute and chronic inflammation ○ Tissue regeneration and reparation ○ Specific inflammation ○ Immunopathology ○ Neoplasia ○ Pathology of the cardiovascular system ▪ Practical instruction: <ul style="list-style-type: none"> ○ Mastering the skills of macroscopic and microscopic analysis and diagnostics of diseases on biopsy and operating material. ○ Mastering the techniques of autopsy and determining the cause of death. 					
12.	Methods of learning: theoretical instruction, practical exercises, seminar work					
13.	Total amount of available time: 6 ECTS x 30 hours = 180 hours					
14.	Distribution of available time: 45+30+15+15+75 = 180 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning			45 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)			30 hours
16.	Other forms of activities	16.1	Projects			15 hours
		16.2	Individual work			15 hours
		16.3	Home learning			75 hours
17.	Method of assessment					
	17.1	Tests / Oral Exam			70 scores	
	17.2	Individual work (presentation, projects, practical)			10 scores	
	17.3	Activity and participation			20 scores	
18.	Assessment Criteria (scores/ points)			up to 50 points	5 (five).	(F)
				51 to 60 points	6 (six)	(E)

		61 to 70 points	7 (seven)	(D)
		71 to 80 points	8 (eight)	(C)
		81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year	60% active participation at the course		
20.	Language of teaching / study	English		
21.	Methods of measuring / monitoring the quality of teaching	Standardized motor tests, observation, survey Self-evaluation		
22.	Literature			
	22.1	Basic literature		
		No	Author	Title
		1.	Kumar, Abbas, Fausto, Aster	Robbins and Cotran Pathologic Basis of Disease 9th Edition
		2.	Eduard K. Klatt	Robbins and Cotran Atlas of Pathology
		3.	Authorized lectures	
	22.2	Additional literature		
		No	Author	Title
		1.	Kumar, Abbas, Aster	Robbins Basic Pathology 10 th edition
		2.		
		3.		

Annex 3		Program of the Course for Integrated First and Second cycle		
1.	Title of Course	PATHOPHYSIOLOGY 1		
2.	Code	3MF103112		
3.	Study program	General Medicine		
4.	Organizer of the Study program	Goce Delchev University – Shtip Faculty of Medical Sciences		
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle		
6.	Academic year/semester	V Semester – third year	7.	Number of ECTS
				6
8.	Professor (s)	Ass. Prof. Milka Klincheva		
9.	Course prerequisites	None		
10.	Aims of the course (competences): Learning about the general pathophysiological processes in the organism			
11.	Contents of the course (per 15 weeks per semester): Pathophysiology 1 Theoretical units 1. Adaption of the cell, damage and death 2. Hemodynamic disorders 3. Thrombosis 4. Inflammation and reparation, fever 5. Shock and types of shock, septic shock 6. Neoplasia 7. Genetic control of the cellular function and inheritance 8. Genetic and congenital disorders 9. Stress, acute and chronic stress 10. Disruption of the flow of water 11. Disruption of the electrolytes 12. Acid and base imbalance Practical units 1. Introduction 2. Cell damage 3. Etiological factors 4. Pathophysiology of bleeding and thrombosis, examples: deep vein thrombosis, pulmonary embolism			

	5. Coagulation cascade, coagulation status, interpretation of results 6. Pathophysiology of acute vs. chronic inflammation, acute response to infections, examples: bacterial pneumonia vs. atherosclerosis 7. Shock, septic vs. cardiogenic shock vs hemorrhagic shock 8. Molecular bases for the occurrence of neoplasms, etiology of the different types of neoplasms 9. Pathophysiology of select genetic diseases: osteogenesis, imperfecta, phenylketonuria, Down syndrome 10. Blood Gas analyses: Water and electrolyte imbalances 11. Reading blood gas analyses: Acid and base imbalance 12. Practicing artery vs vein blood gas analyses					
12.	Learning methods: Interactive teaching, lectures, exercises, practical exercises					
13.	Total amount of available time: 6 ECTS x 30 hours = 180 hours					
14.	Distribution of available time: 30+30+15+45+60=180 hours (2+2+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, (15 weeks x 2 hours)	30 hours		
		15.2	Exercises (15 weeks x 2 hours)	30 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	45 hours		
		16.3	Home learning	60 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		40 points		
	17.2	Individual work (presentation, written and verbal)		10 points		
	17.3	Activity and participation		30 points		
	17.4	Practical and final exam		30 points		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		Attendance and at least 42 points from the pre-exam activities			
20.	Language of teaching / study		Macedonian			
21.	Methods of measuring / monitoring the quality of teaching		Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Gamulin S. Marusic M. et al.	Pathophysiology	Sixth edition - Medical publishing Zagreb	2005
		2.	Stefan J McFee and William Genong	Pathophysiology of diseases and introduction to clinical medicine	Project of the Government of RM for translation of books	4 th edition, September 2002, translated in 2011
		3.	Doc. Dr. Milka Klincheva	General pathologic physiology - script	Goce Delchev University Shtip	2016
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Isaac Tadjer et al.	General pathologic physiology	Medical book, Belgrade	
		2.				
		3.				

Annex 3		Program of the Course for integrated First and Second cycle			
1.	Title of the Course	MICROBIOLOGY 2			
2.	Code	3MF101512			
3.	Study Program	Medicine			
4.	Organizer of the study program (unit or institute, Faculty, department)	University "Goce Delchev" Shtip Faculty of Medical sciences Department of Microbiology			
5.	Cycle (first, second and third cycle)	Integrated First and Second cycle			
6.	Academic year / semester	V Semester – third year	7.	Number of credits	6.0
8.	Professor (s)	Prof. Vaso Taleski, MD, D-r Sc. Ass. prof. d-r Golubinka Boshevska, MD, D-r Sc.			
9.	Requirements for enrolment the Course	Completed attendance at course Microbiology and parasitology 1.			
10.	Purposes of the curriculum (competencies): Basic aim of the course program is to introduce and enable students to acquire theoretical, practical knowledge, skills and competences in field of special microbiology, to be introduced with most important bacteria, viruses, fungi and parasites, methods for microbiological diagnosis from classical through advanced methods of isolation and identification including some molecular diagnostic methods.				
11.	<p>Content of the course program:</p> <p><u>I. BACTERIOLOGY</u></p> <ol style="list-style-type: none"> Gram positive aerobic cocci: Staphylococcus (S. Aureus, S.epidermidis, S. saprofiticus) Streptococcus (S. pyogenes, S. agalactiae, S. faecalis, S. pneumoniae) Gram positive anaerobic cocci: (Peptostreptococcus, Peptococcus) Gram negative aerobic cocci (Neisseria meningitidis, Neisseria gonorrhoeae) Gram negative rods (Hemophilus influenzae, Bordetella, Legionella Enterobacteriaceae: Escherichia coli, Klebsiella, Shigella, Salmonella, Proteus, Yersinia, Enterobacter, Serratia, Providencia, Morganella, Citrobacter Pseudomonas, Acinetobacter, Brucella, Francisella, Campylobacter, Helicobacter pylori, Vibrio Gram negative anaerobic rods: Bacterioides, Fusobacterium, Prevotella Gram positive anaerobic rods: Clostridium (Cl. gass gangrene, Cl. tetani, Cl. botulinum, Cl. difficile) Gram positive sporeforming rods : Bacillus (B. anthracis, B. cereus) Gram positive non-sporeforming rod (Corynebacterium diphteriae) Spiral bacteria (Spirochaetaceae): Treponema, Borrelia, Leptospira, Actinomyces, Nocardia Mycobacterium (M. tuberculosis, M. bovis, M. leprae), Chlamydiae (Chlamydia trachomatis), Mycoplasma, Ureaplasma, Gardnerella vaginalis, Rickettsia, Coxiell <p><u>II. VIROLOGY</u></p> <ol style="list-style-type: none"> Importance of viral infections, Diagnostic methods for viral infections Classification of viruses DNA viruses: Herpesviridae, Herpes virusi (Herpes simplex 1,2, Virus varicella zoster, Cytomegalovirus, EB-virus) Hepadnaviridae (Hepatitis B virus) Human papilloma virus Adenoviridae (Adenovirus) Poxviridae (Variola virus) RNA – viruses: RNA viruses: Hepatitis C virus, Rubella virus, HIV, Picornaviridae (Enteroviruses) Poliovirus, Coxsackie viruses, Hepatitis A virus Orthomyxoviridae: Virus influenzae A, B, Virus influenzae A subtype H5N1, H1N1 Paramyxoviridae (Virus mumps) Morbilli virus, Lyssa virus, Rota virus <p><u>III. MICOLOGY</u></p> <ol style="list-style-type: none"> Special mycology Surface-cutaneous mycoses Dermatophytes (Trichophyton, Microsporium, Epidermophyton) Systematic mycoses Biphasic fungi (Dimorphic fungi) Opportunistic fungi Pathogenic yeasts (Cryptococcus neoformans, Candida albicans) Aspergillus <p><u>IV. PARASITOLOGY</u></p> <ol style="list-style-type: none"> Entamoeba histolytica Flagellates (Giardia lamblia, Trichomonas vaginalis, Leishmania, Trypanosoma) 				

	Sporosoa (<i>Toxoplasma gondii</i> , Plasmodium)			
	12. Helminthes (<i>Taenia solium</i> , <i>Taenia saginata</i> , <i>Echinococcus</i> , <i>Hymenolepis nana</i> , <i>Shistosoma</i> , <i>Fasciola hepatica</i> , <i>Ancylostoma duodenale</i> , <i>Necator americanus</i> , <i>Strongyloides stercoralis</i> , <i>Ascaris lumbricoides</i> , <i>Enterobius vermicularis</i> , <i>Trichuris trichiura</i> , <i>Trichinella spiralis</i> , <i>Loa Loa</i> , <i>Wuchereria bancrofti</i>)			
	Contents of practical program			
	1. Microbiological diagnosis of gram-positive cocci			
	2. Microbiological diagnosis of gram-negative cocci			
	3. Microbiological diagnosis of Enteropathogens			
	4. Microbiological diagnosis of <i>Hemophilus influenzae</i> , <i>Bordetella</i> , <i>Legionella</i>			
	5. Microbiological diagnosis of anaerobe gram positive and anaerobe gram negative rods			
	6. Microbiological diagnosis of gram-positive spore forming and gram-positive non-spore forming bacteria			
	7. Microbiological diagnosis of spiral bacteria			
	8. Microbiological diagnosis of <i>Mycobacterium</i> , <i>Chlamydia trachomatis</i> , <i>Mycoplasma</i> , <i>Ureaplasma</i> , <i>Gardnerella vaginalis</i>			
	9. Microbiological diagnosis of some DNA viruses			
	10. Microbiological diagnosis of some RNA viruses			
	11. Microbiological diagnosis of fungi and yeasts			
	12. Microbiological diagnosis of parasites			
12.	Learning methods: Methods of oral and visual learning/presentations and practical work in the lab.			
13.	Total available time	180 hours		
14.	Distribution of available time	3+2+ 1 per week		
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	40 hours
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	30 hours
16.	Other forms of activities	16.1.	Project tasks	10 hours
		16.2.	Individual tasks	10 hours
		16.3.	Home learning	70 hours
17.	Method of assessment			
	17.1.	Tests		40 points
	17.2.	Seminars (paper / project - presentation: written and/or oral)		10 points
	17.3.	Activity and participation during lecturing		10 points
	17.4.	Activity and participation during lab practical work		10 points
	17.5.	Final exam		30 points
18.	Assessment Criteria (points / score)		up 50 points	5 (five) (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
		91 to 100 points	10 (ten) (A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year		Attendance and at least 42 points from the pre-exam activities	
20.	Language of teaching / study		English	
21.	Method of monitoring the quality of teaching		Student evaluation, Self-evaluation	

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	INTERNAL PROPEDEUTICS 1			
2.	Code	3MF108112			
3.	Study program	General Medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First cycle			
6.	Academic year/ semester	V Semester – third year	7.	Number of ECTS	5
8.	Professor (s)	Andon Cibisev Biljana Ilievska Poposka Ivica Smokovski Valentina Velkovska Nakova Gordana Kamceva Ivana Trajkovska Igor Nikolov			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): The purpose of this course is to provide students how to establish good doctor-patient communication and to become familiar with the structural parts of the patient's medical history. The students will overcome the skill of taking anamnesis, general physical examination and special physical examination by patient systems, as well as the diagnostic methods used to diagnose internal diseases. All theoretical knowledge that students will gain in this subject, will be checked and determined with practical exercises.				
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Introduction to Internal Propedeutics <ul style="list-style-type: none"> • Doctor-patient communication • Medical history - structural parts • Anamnesis • General physical examination • Special physical examination by systems • Non-invasive and invasive diagnostic methods for internal diseases 				
12.	Methods of learning: Lectures, practices, seminars, research and practical activities				
13.	Total amount of available time: 5 ECTS x 30 hours = 150 hours				
14.	Distribution of available time: 30+30+0+45+45 = 150 hours				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours	
16.	Other forms of activities	16.1	Projects	0 hours	
		16.2	Individual work	45 hours	
		16.3	Home learning	45 hours	
17.	Method of assessment				
17.	17.1	Tests / Oral Exam		40/30 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five)	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course		
20.	Language of teaching / study		English		
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation Minimum of 42 points gained through the attendance and active participation on the theoretical, practical work,		
22.	Literature				

22.1	Basic literature				
	No	Author	Title	Publisher	Year
	1.	G. Kamceva M. Vavlukis	Clinical Examination - Internal Aspects of Adult Patient Examination	UGD- Stip	2019
	2.	G. Kamceva M. Vavlukis	Practicum with general guidelines for clinical examination for internistically ill patient	UGD-Stip	2015
	3.	V.Serafimovski with associates	Clinical examination in Internal Medicine- Internal Propedeutics	UKIM- Skopje	2004
22.2	Additional literature				
	No	Author	Title	Publisher	Year
	1.	Lj. Georgievska Ismail	Electrocardiography	Skopje	2008
	2.	D. Dubin	Basic of Electrocardiography	Tabernacul	2010
	3.				

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	PHARMACOLOGY AND TOXICOLOGY 2			
2.	Code	3MF113112			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	V Semester – third year	7.	Number of ECTS	4
8.	Professor (s)	Marija Darkovska Serafimovska			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): To introduce students with special pharmacology of the organic systems and to provide a review of the basic characteristics of most frequent medicines that are now used in everyday practice				
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Pharmacology of CNS (neurohumoral transmission, anxiolytics and hypnotics, antiepileptics, antiparkinsonian medicines and neuroleptics) ▪ Pharmacology of CNS (antidepressants, general anesthetics, local anesthetics, analgesics and relaxants) ▪ Pharmacology of the autonomous nervous system (physiology of ANS, cholinergic and anticholinergic drugs) ▪ Pharmacology of the autonomous nervous system (adrenergic agonists, adrenergic blockers, histamine and antihistamines, agonists and antagonists of serotonin) ▪ Pharmacology of the cardiovascular system ▪ Pharmacology of blood ▪ Pharmacology of the respiratory system ▪ Pharmacology of digestive system ▪ Antimicrobials ▪ Hormones and vitamins ▪ Pharmacology of chemotherapy agents ▪ Toxicology 				
12.	Methods of learning: Lectures, exercises, project assignments, discussion, debate and individual assignments				
13.	Total amount of available time: 4 ECTS x 30 = 120 hours				
14.	Distribution of available time: 30+15+15+30+15 = 120 hours (2+1+1)				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning (15 weeks x 2 = 30)		30 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		15 hours

			(15 weeks x 1 = 15)		
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	30 hours	
		16.3	Home learning	30 hours	
17.	Method of assessment				
17.	17.1	Tests / Oral Exam		70 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)			up to 50 points	5 (five). (F)
				51 to 60 points	6 (six) (E)
				61 to 70 points	7 (seven) (D)
				71 to 80 points	8 (eight) (C)
				81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course	
20.	Language of teaching / study			English	
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation	
22.	Literature				
	22.1	Basic literature			
No		Author	Title	Publisher	Year
1.		Rang HP, Dale MM, Ritter JM, Moore PK	PHARMACOLOGY	Churchill Livingstone	London, 2005
2.					
3.					
22.2	Additional literature				
	No	Author	Title	Publisher	Year
		1.	Goodman & Gilman's	The Pharmacological basis of Therapeutics;	last edition
		2.			
		3.			

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	MEDICAL STATISTICS AND INFORMATICS			
2.	Code	3MF120012			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	V Semester – third year	7.	Number of ECTS	3
8.	Professor (s)	Prof. D-r Milka Zdravkovska			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): Acquisition of knowledge for the basics of medical biostatistics – types of collecting data, data grouping in statistics series and their tabular and graphic display. Studying of the basic parametric and non-parametric tests, demographic and vital statistic.				
11.	Contents of the course (per 15 weeks per semester): <u>Theoretical study units:</u> <ul style="list-style-type: none"> ▪ Term and development of biostatistics; Statistic sample, statistic units, types and characteristics of the statistics data, statistics series (attributive, numeric, spatial and periodic). ▪ Methods for collecting data: inventory, registration and preparing of reports, method of questionnaire – survey. ▪ Tabular and graphic display of the statistics series. ▪ Analysis of structure of series with attributive features (relations, proportions, rates and indexes). ▪ Analysis of structure of series with numeric features (arithmetic mean, median, mode). ▪ Measures of variability: mean deviation, variance, and standard deviation; variation coefficient. ▪ Hypothesis/ Testing hypothesis; ▪ Analysis of the relations between the statistics series with attributive features (χ^2 test and coefficient of contingency). 				

	<ul style="list-style-type: none"> ▪ Analysis of the relations between the statistics series with numeric features (Pearson's coefficient of correlation, Spearman's coefficient of rang correlation and multiple correlation). ▪ Method of sample; Assessment of the sample's parameters (parameter π and parameter μ). ▪ Testing of the significance of differences between two arithmetic means and and between two proportions (Student's t-test for independent and dependent samples). ▪ Examination of the appearances dynamic (trend, sesonic index) ▪ Vital statistics; ▪ Terms and sources of demographic statistics. ▪ Use of informatics in medicine. <p><u>Practical study units:</u></p> <ol style="list-style-type: none"> 1. Plan for statistic research. 2. Indexes of dynamics with constant and variable basis. 3. Calculating arithmetical mean of non-grouped data, grouped with group interval and grouped without group interval. 4. Calculating of median and mode among grouped and non-grouped data. 5. Standard deviation among grouped and non-grouped data; 6. Coefficient of variation. 7. Calculating expected frequencies and χ^2 test. 8. Pearson's coefficient of correlation among non-grouped data. 9. Assessment of sample's parameters (parameter π and parameter μ). 10. Student's t-test among two independent samples and two proportions. 11. Linear trend of periodic series (for odd and even number of years); 12. Sesonic index. 13. Calculating of natality, fertility, mortality, morbidity rates and natural growth of population. 14. Presentation of a statistical program. 15. Presentation of a statistical program. 					
12.	Methods of learning: Lectures, exercises, group discussions methods, individual assignments, seminar papers, presentation of scientific papers;					
13.	Total amount of available time: 90					
14.	Distribution of available time: 30+15+0+30+15 = 90 (2+1+0)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours		
16.	Other forms of activities	16.1	Projects	0 hours		
		16.2	Individual work	30 hours		
		16.3	Home learning	15 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five). (F)		
			51 to 60 points	6 (six) (E)		
			61 to 70 points	7 (seven) (D)		
			71 to 80 points	8 (eight) (C)		
			81 to 90 points	9 (nine) (B)		
		91 to 100 points	10 (ten) (A)			
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Zdravkovska Milka	Author's lectures		
		2.	Michael J. Campbell, David Machin, Stephen J. Walters	Medical Statistics A Textbook for the Health Sciences, Fourth Edition.	Wiley; 4 edion	August 2007
	3.	James F.Jekel, David L.Katz, Joann G.Elmore, Dorothea M.G.Wild	Epidemiology, biostatistics and preventive medicine	Tabernakul	2010	

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	PATHOLOGY 2				
2.	Code	3MF102912				
3.	Study program	Medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	VI Semester – third year	7.	Number of ECTS	6	
8.	Professor (s)	Dzengis Jasar, Vanja Filipovski, Katerina Kubelka-Sabit				
9.	Requirements for enrolling the course	Taught lectures from Pathology 1				
10.	Aims of the course (competences): Introduction to etiology and pathogenesis, morphological changes of tissues and organs, clinical picture and outcome of diseases. Study of degenerative, inflammatory and neoplastic diseases in organic systems.					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Theoretical instruction: <ul style="list-style-type: none"> ○ Pathology of the reticuloendothelial system; ○ Pathology of the respiratory system; ○ Pathology of the digestive system; ○ Pathology of hepatobiliary system and pancreas; ○ Pathology of the urinary and male genital system; ○ Pathology of the female genital system; ○ Pathology of the breast; ○ Endocrine Pathology; ○ Pathology of the central and peripheral nervous system; ○ Pathology of the skin; ○ Pathology of the locomotor system. ▪ Practical instruction: <ul style="list-style-type: none"> ○ Mastering the skills of macroscopic and microscopic analysis and diagnostics of diseases on biopsy and operating material. ○ Mastering the techniques of autopsy and determining the cause of death. 					
12.	Methods of learning: theoretical instruction, practical exercises, seminar work					
13.	Total amount of available time: 6 ECTS x 30 hours = 180 hours					
14.	Distribution of available time: 45+30+15+15+75 = 180 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning			45 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)			30 hours
16.	Other forms of activities	16.1	Projects			15 hours
		16.2	Individual work			15 hours
		16.3	Home learning			75 hours
17.	Method of assessment					
	17.1	Tests / Oral Exam			70 scores	
	17.2	Individual work (presentation, projects, practical)			10 scores	
	17.3	Activity and participation			20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points		5 (five).	(F)
			51 to 60 points		6 (six)	(E)
			61 to 70 points		7 (seven)	(D)
			71 to 80 points		8 (eight)	(C)
			81 to 90 points		9 (nine)	(B)
91 to 100 points		10 (ten)	(A)			
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course		
20.	Language of teaching / study			English		
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation		
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year

		1.	Kumar, Abbas, Fausto, Aster	Robbins and Cotran Pathologic Basis of Disease 9th Edition	Elsevier	2014
		2.	Eduard K. Klatt	Robbins and Cotran Atlas of Pathology	Saunders, Elsevier	2009
		3.	Authorized lectures			
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Kumar, Abbas, Aster	Robbins Basic Pathology 10 th edition	Elsevier	2017

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	PATHOPHYSIOLOGY 2				
2.	Code	3MF103212				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delchev University – Shtip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/semester	VI Semester – third year	7.	Number of ECTS	6	
8.	Professor (s)	Ass. Prof. Milka Klincheva				
9.	Course prerequisites	Passed pathophysiology 1 exam				
10.	Aims of the course (competences): Learning about the pathophysiological processes in the organism by organs					
11.	Contents of the course (per 15 weeks per semester): Pathophysiology 2 Theoretical units 13. Atherosclerosis process 14. Pathophysiology of heart conditions, ischemic heart disease, heart failure 15. Pathophysiology of heart defects 16. Electrocardiography 17. Pathophysiology of respiratory diseases 18. Pathophysiology of the gastrointestinal system 19. Pathophysiology of the liver and pancreas 20. Pathophysiology of the urinary tract, kidneys and bladder 21. Pathophysiology of the endocrine system 22. Pathophysiology of diabetes melitus 23. Pathophysiology of the hematopoietic system 24. Pathophysiology of the nervous system Practical units 13. Myocardial infarction, carotid disease, stroke, periphery artery disease 14. Pathophysiology of heart failure 15. Electrocardiography part 1 16. Electrocardiography part 2 17. Infection, infectious endocarditis, meningitis, pneumonia, infectious diarrhea, sepsis, septic shock 18. Immune system deficiencies: allergenic rhinitis, AIDS 19. Upper digestive vs lower digestive hemorrhaging 20. Cirrhosis 21. Pathophysiology of nephrotic vs nephritic syndrome 22. Diabetes melitus type 2 vs type 1, hypothyroidism vs hyperthyroidism 23. Anemias, leukemias, interpretation of blood analyses 24. Parkinson disease, Myasthenia Gravis, epilepsy, dementia, Alzheimer disease					
12.	Learning methods: Interactive teaching, lectures, exercises, practical exercises					
13.	Total amount of available time: 6 ECTS x 30 hours = 180 hours					
14.	Distribution of available time: 30+30+15+45+60=180 hours (2+2+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, (15 weeks x 2 hours)			30 hours
		15.2	Exercises (15 weeks x 2 hours)			30 hours
16.	Other forms of activities	16.1	Projects			15 hours
		16.2	Individual work			45 hours
		16.3	Home learning			60 hours
17.	Method of assessment					

	17.1	Tests / Oral Exam	40 points		
	17.2	Individual work (presentation, written and verbal)	10 points		
	17.3	Activity and participation	30 points		
	17.4	Practical and final exam	30 points		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five)	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
			91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year		Attendance and at least 42 points from the pre-exam activities		
20.	Language of teaching / study		English		
21.	Methods of measuring / monitoring the quality of teaching		Self-evaluation		
22.	Literature				
	22.1	Basic literature			
		No	Author	Title	Publisher
		1.	Gamulin S. Marusic M. et al.	Pathophysiology	Sixth edition - Medical publishing Zagreb
		2.	Stefan J McFee and William Genong	Pathophysiology of diseases and introduction to clinical medicine	Project of the Government of RM for translation of books
					4 th edition, September 2002, translated in 2011
		3.	Doc. Dr. Milka Klincheva	General pathologic physiology - script	Goce Delchev University Shtip
					2016
	22.2	Additional literature			
		No	Author	Title	Publisher
		1.	Harrison	Harrison's Principles of Internal Medicine	

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	INTERNAL PROPEDEUTICS 2				
2.	Code	3MF108212				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University - Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First cycle				
6.	Academic year/ semester	VI Semester - third year	7.	Number of ECTS	5	
8.	Professor (s)	Andon Cibisev Biljana Ilievska Poposka Ivica Smokovski Valentina Velkovska Nakova Gordana Kamceva Ivana Trajkovska Igor Nikolov				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): The purpose of this course is to provide students how to establish good doctor-patient communication and to become familiar with the structural parts of the patient's medical history. The students will overcome the skill of taking anamnesis, general physical examination and special physical examination by patient systems, as well as the diagnostic methods used to diagnose internal diseases. All theoretical knowledge that students will gain in this subject, will be checked and determined with practical exercises.					
11.	Contents of the course (per 15 weeks per semester):					

	<ul style="list-style-type: none"> ▪ Introduction to Internal Propedeutics <ul style="list-style-type: none"> • Doctor-patient communication • Medical history - structural parts • Anamnesis • General physical examination • Special physical examination by systems • Non-invasive and invasive diagnostic methods for internal diseases 					
12.	Methods of learning: Lectures, practices, seminars, research and practical activities					
13.	Total amount of available time: 5 ECTS x 30 hours = 150 hours					
14.	Distribution of available time: 30+30+0+45+45 = 150 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours		
	Other forms of activities	16.1	Projects	0 hours		
		16.2	Individual work	45 hours		
		16.3	Home learning	45 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		40/30 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five)	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
			91 to 100 points	10 (ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation Minimum of 42 points gained through the attendance and active participation on the theoretical, practical work,			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	G. Kamceva M. Vavlukis	Clinical Examination - Internal Aspects of Adult Patient Examination	UGD- Stip	2019
		2.	G. Kamceva M. Vavlukis	Practicum with general guidelines for clinical examination for internistically ill patient	UGD-Stip	2015
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Lj. Georgievska Ismail	Electrocardiography	Skopje	2008
		2.	D. Dubin	Basic of Electrocardiography	Tabernacul	2010
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	CLINICAL PHARMACOLOGY				
2.	Code	3MF110512				
3.	Study program	Medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	VI Semester – third year	7.	Number of ECTS	4	
8.	Professor (s)	Prof. Andon Cibisev, Ass. Prof. Marija Darkovska Serafimovska				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): Introduction to the subject and objectives of clinical pharmacology and its practically meaning in contemporary therapy					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Introducing and meaning of clinical pharmacology ▪ Aims and basic principles of clinical pharmacology ▪ Phases and methods for clinical testing of new medicines ▪ Ethics and legislation ▪ Practical meaning of pharmacokinetics in therapy ▪ Use of medicines in old people ▪ Use of medicines in children ▪ Use of medicines in pregnancy and lactation ▪ Use of medicines in patient with damaged kidneys ▪ Use of medicines in patients with damaged liver ▪ Clinical meaning of interactions between medicines ▪ Organized monitoring of adverse reactions to medicines 					
12.	Methods of learning: Lectures, exercises, project assignments, discussion, debate and individual assignments					
13.	Total amount of available time: 4 EKT x 30 = 120 hours					
14.	Distribution of available time: 30+15+15+30+15 = 120 hours (2+1+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning (15 weeks x 2 = 30)		30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work) (15 weeks x 1 = 15)		15 hours	
16.	Other forms of activities	16.1	Projects		15 hours	
		16.2	Individual work		30 hours	
		16.3	Home learning		30 hours	
17.	Method of assessment					
17.	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5	(five).	(F)
			51 to 60 points	6	(six)	(E)
			61 to 70 points	7	(seven)	(D)
			71 to 80 points	8	(eight)	(C)
			81 to 90 points	9	(nine)	(B)
		91 to 100 points	10	(ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
1.		Desmond Laurence, Peter Bennett	Clinical pharmacology		Last edition	
2.	Bertram Katzung	Basic and Clinical pharmacology		Last edition		

		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Goodman & Gilman's	The pharmacological basis of therapeutics	.	Last edition
		2.				
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	EPIDEMIOLOGY				
2.	Code	3MF120412				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	VI Semester – third year	7.	Number of ECTS	5	
8.	Professor (s)	Prof. D-r Milka Zdravkovska				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): Acquisition of knowledge for general and specific epidemiology and prevention of infectious and non-infectious disease					
11.	<p>Contents of the course (per 15 weeks per semester):</p> <p><u>Theoretical study units:</u></p> <ul style="list-style-type: none"> ▪ Epidemiological methods: descriptive, analytical and experimental ▪ Epidemiological process, forms of appearance, epidemiological models for occurrence of disease ▪ Occurrence of infection and infectious disease, mechanisms of occurrence and ways of transmission of infectious disease ▪ Characteristics of hydric epidemic, alimentary, aerogenic, contact and transmissive epidemics ▪ Prevention of disease: primary, secondary and tertiary; epidemiologic supervision ▪ Immunization, seroprophylaxis and chemoprophylaxis ▪ Intrahospital infections; disinfection, disinsection and deratisation ▪ Epidemiological characteristics of infectious intestine disease: acute enterocolitis, bacillary dysentery, salmonellosis, staphylococcal poisoning, intestinal typhus and paratyphus, cholera, botulism, poliomyelitis, Viral hepatitis A, B, C, E, G, D; ▪ Epidemiological characteristics of infectious respiratory disease: varicella, morbilli, variola vera, rubeola, parotitis, infectious mononucleosis, influenza, diphtheria, acute streptococcal infection, pertussis, meningococcal meningitis, tuberculosis ▪ Epidemiological characteristics of infectious contact disease: trichomoniasis, leprosy, ebola, gonorrhoea, syphilis, HPV infection, AIDS ▪ Epidemiological characteristics of infectious transmissible disease: blotchy typhus, recurring fever, malaria, yellow fever; ▪ Epidemiological characteristics of zoonosis: tetanus, brucellosis, anthrax, tularemia, plague, rabies ▪ Epidemiological characteristics of non infectious chronic disease: chronic obstructive pulmonary disease, cardiovascular disease, cerebrovascular disease ▪ Epidemiological characteristics of malignant neoplasm, diabetes, addiction diseases; <p><u>Practical study units:</u></p> <ol style="list-style-type: none"> 16. Epidemiological methods and design of studies 17. Ways of collecting data, epidemiological survey, sample and defining the size of the sample 18. Epidemiological process, forms of epidemiological process, epidemiological models for occurrence of disease 19. Epidemiological characteristics and samples of hydric, and alimentary epidemics 20. Epidemiological characteristics and samples of aerogenic, contact and transmissive epidemics 21. Immunization: obligatory vaccinations and vaccination by epidemiological indications 22. Prevention during professional exposition 23. Epidemiologic characteristics of infectious intestine disease: bacillary dysentery, salmonellosis, staphylococcal poisoning, cholera, botulism 24. Viral hepatitis A, B, C 25. Epidemiological characteristics of infectious respiratory disease: varicella, morbilli, variola vera, rubeola, parotitis, influenza, acute streptococcal infection, pertussis, tuberculosis 					

	26. Epidemiological characteristics of infectious contact disease: trichomoniasis, gonorrhea, syphilis, HPV infection, AIDS					
	27. Epidemiological characteristics of infectious transmissible disease: malaria, yellow fever;					
	28. Epidemiological characteristics of zoonosis: tetanus, brucellosis, anthrax, rabies					
	29. Epidemiological characteristics of non-infectious chronic disease: chronic obstructive pulmonary disease, cardiovascular disease					
	30. Epidemiological characteristics of malignanat neoplasm, diabetes, addiction diseases					
12.	Methods of learning: Lectures, exercises, group discussions methods, individual assignments, seminar papers, presentation of scientific papers;					
13.	Total amount of available time: 240					
14.	Distribution of available time: 30+30+15+45+60 = 240 (2+2+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	45 hours		
		16.3	Home learning	60 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)			up to 50 points	5 (five).	(F)
				51 to 60 points	6 (six)	(E)
				61 to 70 points	7 (seven)	(D)
				71 to 80 points	8 (eight)	(C)
				81 to 90 points	9 (nine)	(B)
				91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course		
20.	Language of teaching / study			English		
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation		
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Milka Zdravkovska	Author's lectures		
		2.	James F.Jekel, David L.Katz, Joann G.Elmore, Dorothea M.G.Wild	Epidemiology, biostatistics and preventive medicine	Tabernakul	2010
	3.	Modern Epidemiology 3rd Ed.	Kenneth J. Rothman, Sander Greenland, Timothy L. Lash	LWW; Third, revision edition	Dec. 28, 2012	
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.			.	
		2.				
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	MEDICAL PSYCHOLOGY			
2.	Code	3MF126812			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	VI Semester – third year	7.	Number of ECTS	4
8.	Professor (s)	Prof. Dr. Lenče Miloševa			
9.	Requirements for enrolling the course	None			
10.	<p>Aims of the course (competences):</p> <ul style="list-style-type: none"> -To become familiar and to understand basic concepts of personality structure, psychological processes and their abnormalities; neuroanatomy and neuroendocrinology bases and changes in developmental periods; normal and abnormal psychological development; knowing and understanding human behavior and reactions of patients on illness. -To acquire basic knowledge of general psychopathology - To become familiar with mental health of children and adolescents -To become familiar with psychodiagnostic and assessment and treatment of mental health disorders (adults and children and adolescents) -To acquire basic concepts of psychotherapy as treatment -To became familiar with basic concepts of clinical neuropsychology and psychological autopsy 				
11.	<p>Contents of the course (per 15 weeks per semester):</p> <ul style="list-style-type: none"> - Application of clinical psychology in medicine and clinical practice. Introduction of medical psychology. -Biomedical/biopsychosocial model of health and illness. - Concept of personality, psychological processes and behavior. Psychological processes and their neuroanatomical and neuroendocrine basis. -Theories of psychological development. Cognitive processes and development. Socio emotional processes and development.. -Psychological processes (cognitive, affective, conative) and their abnormalities : Intelligence; learning and forgetting; memory and speech; sense and perception; consciousness; attention; emotions; motivations, urge and conative process; -Mental health and mental disorders through life span developmental cycles. Concept of normality vs. abnormality. -Psychodiagnostic and assessment. -Psychological treatment of mental disorders. Psychotherapy and couching. -Stress and experience of stress, coping with stress. -Psychosomatic illness. Psychoneuroimmunology; Psychooncology; Psychodermatology. Psychological aspects of chronic and terminal illness. Posttraumatic stress disorder. - Psychology of pain and psychological reactions of patients. Psychological aspects of death, dying, mourning. - Basics of clinical neuropsychology; neuropsychological assessment and application in medical context and clinical practice. -Basic concepts of Forensic psychology and psychological autopsy and conducting of psychological profile. Ability for making decisions and law testimonials. <p><u>Presenting of movies with psychopathology topics and conducting seminars with discussions based on them</u></p>				
12.	<p>Methods of learning: After presentation of video presentation of movie with psychopathological entities providing interactive seminars; lectures; interactive method: group work, reports of case study , homework, seminar papers, cooperative studying techniques; individual tasks, simulation of extra-curricular educational activities, individual studying</p>				
13.	<p>Total amount of available time: 4 ECTS x 30 часа = 120 часа</p>				
14.	<p>Distribution of available time: 30+15+15+30+15 = 120 часа (2+1+1)</p>				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours	
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	30 hours	

		16.3	Home learning			30 hours	
17.	Method of assessment						
	17.1	Tests / Oral Exam			70 scores		
	17.2	Individual work (presentation, projects, practical)			10 scores		
	17.3	Activity and participation			20 scores		
18.	Assessment Criteria (scores/ points)				up to 50 points	5 (five). (F)	
					51 to 60 points	6 (six) (E)	
					61 to 70 points	7 (seven) (D)	
					71 to 80 points	8 (eight) (C)	
					81 to 90 points	9 (nine) (B)	
					91 to 100 points	10 (ten) (A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year				60% active participation at the course		
20.	Language of teaching / study				English		
21.	Methods of measuring / monitoring the quality of teaching				Survey , Self-evaluation, Standardized criteria of quality assurance		
22.	Literature						
	22.1	Basic literature					
		No	Author	Title	Publisher	Year	
		1.	Blaney, P., Krueger,R., Millon, T.	Oxford textbook of Psychopathology	Oxford Handbooks	2015	
		2.	Hunter, Christine M., Hunter, Christopher L. & Kessler, Rodger (Eds.)	Handbook of clinical psychology in medical settings	New York: Springer	2014	
	3.	Ogden, G.	Health Psychology	McGraw-Hill Education	2019		
	22.2	Additional literature					
		No	Author	Title	Publisher	Year	
		1.	Shatkin, J.H.	Child & Adolescent Mental Health: A Practical, All-in-One Guide	. W. W. Norton & Company	2015	
		2.	Semple,D.& Smyth,R.	Oxford Handbook of Psychiatry	Oxford Handbooks	2019	

Annex 3		Program of the Course - first/second/third cycle studies				
1.	Title of the Course	INFECTIOUS DISEASES 1				
2.	Code	3MF107112				
3.	Study Program	General medicine				
4.	Organizer of the study program (unit or institute, Faculty, department)	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Cycle (first, second and third cycle)	Integrated First and Second cycle				
6.	Academic year / semester	VII Semester – fourth year	7.	Number of credits	5	
8.	Professor (s)	Velo Markovski				
9.	Requirements for enrollment the Course	-				
10.	Purposes of the curriculum (competencies): Introduction to the basics of infectious diseases, therapy of infectious diseases, antibiotics, anti-viral drugs, antimycotics, basics of immunology, viral hepatitis, basics of intestinal infections, dehydration and rehydration					
11.	Content of the course program:					
12.	Learning methods: Lectures,exercises,seminars research and practical activities. A) Lectures 1. Basic features of infectious diseases 2. Infection and infectious disease 3. Symptoms and Syndromes in Infectology 4. Temperature 5. Basics of Immunology 6. Immunoprophylaxis 7. Non-specific treatment of infectious diseases					

	8. Specific treatment of infectious diseases 9. Icteric syndrome 10. Viral hepatitis 11. Bacterial intestinal infections 12. Viral intestinal infections 13. Dehydration and rehydration B) Exercises <ul style="list-style-type: none"> • Reception and isolation of one patient • Microbiological analysis • Anamnesis and examination of a patient with an infectious disease • Making a diagnosis • Serological tests and clinical trials in infectious disease • Reporting and registering an infectious disease • Hygienic diet treatment for entero-infections and Hygienic diet treatment for viral hepatitis 			
13.	Total available time	5 ECTS x 30 hours = 150 hours.		
14.	Distribution of available time	30+15+15+0+60=120 hours.		
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	45 hours
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	30 hours
16.	Other forms of activities	16.1.	Project tasks	15 hours
		16.2.	Individual tasks	0 hours
		16.3.	Home learning	60 hours
17.	Method of assessment			
	17.1.	Tests / oral exams	70 points	
	17.2.	Seminars (paper / project - presentation: written and/or oral)	10 points	
	17.3.	Activity and participation	20 points	
18.	Assessment Criteria (points / score)		up 50 points	5 (five) (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)
19.	Signature requirement and passing the final exam		42 points acquired	
20.	Language of teaching / study		English	
21.	Method of monitoring the quality of teaching		Self-evaluation	

22.	Literature					
	22.1.	Required literature				
		No.	Author	Title	Publisher	Year
		1.	Mandell, Douglas, and Bennett's	Infectious disease essentials	Elsevier	
2.	Velo Markovski	Authorized lectures	Faculty of Medical Sciences - UGD			

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	DERMATOVENEROLOGY				
2.	Code	3MF106312				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delcev University - Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	VII Semester - fourth year	7.	Number of ECTS	5	
8.	Professor (s)	Ass. Professor Andrej Petrov				

9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): Aim of the course is to achieve basic knowledge in dermatovenerology. Students learn how to recognize and treat skin diseases. Skin is the biggest organ. Connection with other system and the role of skin as mirror of the body system, also is part of the education. Theoretical work is followed by practical approach to the patient, dermatology status, and learning of basic dermatology lab tests, tools and protocols.				
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Introduction in dermatology, skin structure ▪ Skin eflorescencies ▪ Histological features of skin diseases ▪ Diagnosis and treatment of skin diseases ▪ Infections caused by bacteria and viruses ▪ Parasite and fungal infections ▪ Allergy end urticaria ▪ Dermatitis and atopia ▪ Acne end related disorders ▪ Psoriasis and erythemosquamous diseases ▪ Systemic diseases of connective tissue with skin involvement ▪ Skin tumors ▪ Alopecia and diseases of the hair ▪ STD 				
12.	Methods of learning: Lectures, practical exercises with a patients, seminars				
13.	Total amount of available time: 150 hours				
14.	Distribution of available time: 2+2+1				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning		60 hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		60 hours
16.	Other forms of activities	16.1	Projects		10 hours
		16.2	Individual work		10 hours
		16.3	Home learning		10 hours
17.	Method of assessment				
	17.1	Tests / Oral Exam			70 scores
	17.2	Individual work (presentation, projects, practical)			10 scores
	17.3	Activity and participation			20 scores
18.	Assessment Criteria (scores/ points)			up to 50 points	5 (five). (F)
				51 to 60 points	6 (six) (E)
				61 to 70 points	7 (seven) (D)
				71 to 80 points	8 (eight) (C)
				81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course	
20.	Language of teaching / study			English	
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation	
22.	Literature				
	22.1	Basic literature			
No		Author	Title	Publisher	Year
1.		Braun-Falco O.	Dermatology	Springer	2009
2.					
3.					
22.2	Additional literature				
	No	Author	Title	Publisher	Year
	1.	Klaus Wolf and Richard Johnson	Fitzpatric color atlas of dermatology	Magor	2011
	2.				
3.					

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	INTERNAL MEDICINE 1			
2.	Code	3MF106712			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	First cycle			
6.	Academic year/ semester	VII Semester – fourth year	7.	Number of ECTS	8
8.	Professor (s)	Andon Cibisev Biljana Ilievska Ivica Smokovski Valentina Velkovska Nakova Gordana Kamceva Ivana Trajkovska Igor Nikolov			
9.	Requirements for enrolling the course	Condition to be able to enroll to the subject is listened anatomy, physiology, basics of clinical practice 1 and 2, internal propedeutics 1 and 2, pathophysiology 1 and 2, pharmacology and toxicology 1 and 2 subjects, and condition to take the exam, is to be heard and passed the before mentioned exams.			
10.	Aims of the course (competences):	<ul style="list-style-type: none"> • Acquire knowledge of rational clinical assessment and treatment of diseases of the cardiovascular system, the pulmonary system, nephrological and rheumatic diseases. • Acquired skills of rational diagnosis and therapeutic treatment, based on etiopathogenetic and clinical pharmacology basics • Acquired skills of rational application of diagnostic investigations that together with clinical examination lead to the diagnosis of the disease <ul style="list-style-type: none"> • Acquire knowledge based on the principles of evidence-based medicine and guided by disease treatment recommendations. 			
11.	Contents of the course (per 15 weeks per semester):	<ul style="list-style-type: none"> ▪ Cardiovascular Diseases (4 blocks) ▪ Diseases of the respiratory system (4 blocks) ▪ Diseases of the urinary system (4 blocks) ▪ Rheumatic Diseases (3 blocks) 			
12.	Methods of learning: interactive lectures, practical classes, project work				
13.	Total amount of available time: 270				
14.	Distribution of available time: Lectures 60 hours per week, Practical exercises 60 hours per week, Project work 15 hours per week Individual tasks 15 hours Homework 45 hours per week				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	60 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	60 hours	
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	15 hours	
		16.3	Home learning	45 hours	
17.	Method of assessment				
17.	17.1	Tests / Oral Exam	70 scores		
	17.2	Individual work (presentation, projects, practical)	10 scores		
	17.3	Activity and participation	20 scores		
18.	Assessment Criteria (scores/ points)	up to 50 points	5 (five).	(F)	
		51 to 60 points	6 (six)	(E)	
		61 to 70 points	7 (seven)	(D)	
		71 to 80 points	8 (eight)	(C)	
		81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year	60% active participation at the course			
20.	Language of teaching / study	English			

21.	Methods of measuring / monitoring the quality of teaching	Standardized motor tests, observation, survey Self-evaluation Minimum of 42 points gained through the attendance and active participation on the theoretical, practical work, individual activities and tests.				
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	J. Larry Jameson, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, Dan L. Longo, Joseph Loscalzo	Harrison's principles of internal medicine (20-th edition)	Mc Graw Hill	2019
		2.				
		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Andon Cibisev Biljana Ilievska Ivica Smokovski Valentina Velkovska Nakova Gordana Kamceva Ivana Trajkovska Igor Nikolov	Professor Authorized lectures	.	

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	NEUROLOGY				
2.	Code	3MF108512				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year 2020/ semester VII	VII Semester - fourth year	7.	Number of ECTS	4	
8.	Professor (s)	Tatjana Chepreganova Changovska				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): Teaching neurology lectures					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ 15 weeks x 2 hours = 30 hours (theoretical hours) ▪ 15 weeks x 1 hour = 15 hours (practical hours) 					
12.	Methods of learning: online learning, practice with patient, assisting the physician during patient examination, taking vital signs, taking medical histories, neurological examination, performing basic tests...					
13.	Total amount of available time: 4 ECTSx30=120					
14.	Distribution of available time: 30+15+15+30+15=120 (2+1+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning		30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		15 hours	
16.	Other forms of activities	16.1	Projects		15 hours	
		16.2	Individual work		30 hours	
		16.3	Home learning		30 hours	
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)			up to 50 points	5 (five).	(F)
				51 to 60 points	6 (six)	(E)
				61 to 70 points	7 (seven)	(D)

		71 to 80 points	8 (eight)	(C)
		81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course	
20.	Language of teaching / study		English	
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation	
22.	Literature			
	22.1	Basic literature		
		No	Author	Title
		1.	Allan Ropper, Martin Samuels, Joshua Klein, Sashank Prasad.	Adams and Victor's Principles of Neurology, 11th edition
		2.	Elan D. Louis, Stphan A. Mayers, Lwis P. Rowland	Merritt's Neurology
		3.	Geraint Fuller	Neurological examination made Easy
	22.2	Additional literature		
		No	Author	Title
		1.	Robert B. Daroff, Joseph Jankovic, John C. Mazziotta	Neurology in clinical Practice
		2.	Osama O. Zaidat, J. Douglas Miles, Alan J. Lerner	The little Black Book of Neurology
		3.		

Annex 3		Program of the Course for Integrated First and Second cycle		
1.	Title of Course	RADIOLOGY		
2.	Code	3MF111412		
3.	Study program	General medicine		
4.	Organizer of the Study program	Goce Delchev University – Shtip Faculty of Medical Sciences		
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle		
6.	Academic year/ semester	VII Semester – fourth year	7.	Number of ECTS
				4
8.	Professor (s)	Ass. Prof. Dr. Jasminka Chabukovska Radulovska Ass. Prof. Dr. Tanja Petrovska		
9.	Requirements for enrolling the course	None		
10.	Aims of the course (competences): Acquire a basic knowledge of radiology and education for independent evaluation of normal and pathological radiology findings			
11.	Contents of the course (per 15 weeks per semester): Theoretical lectures : 15 weeks x 2 hours = 30 31 Theoretical part: 1. Introduction to Radiology; 2. Obtaining x-rays and their application in radio diagnostics; 3. X-ray image and its characteristics; 4. Digital radiography; 5. Imaging methods in radio diagnostics/ultrasound, computed tomography and magnetic resonance imaging; 6. Radiological diagnosis of diseases of the respiratory tract; 7. Radiological diagnosis of diseases of the cardiovascular system; 8. Radiological diagnosis of diseases of the digestive tract;			

	<p>9. Radiological diagnosis of biliary tract diseases; 10. Radiological diagnosis of diseases of the urogenital tract; 11. Radiological diagnosis of diseases of the musculoskeletal system; 12. Radiological diagnosis of diseases of the central and peripheral nervous system; 13. Radiological diagnosis of the breast diseases; 14. Radiological diagnosis of the life threatening condition; 15. Interventional radio diagnostic procedures 16. Combined imaging techniques, such as positron-emission tomography (PET)/CT, basic knowledge.</p> <p>II Practical classes: 15 weeks x 1 hour = 15</p> <p>1. Introduction to practical work in radiology department; 2. Introduction to practical work in conventional radiology; 3. Demonstrated work with ultrasound (US); 4. Demonstrated work with computed tomography (CT 5. Uses of MRI in medical practices; 6. Radiology anatomy, radiology techniques, radiology of disease, interventional radiology, radiation protection, guidelines for appropriate use of radiology, and hands-on interpretation skills; 7. Developing a system for viewing chest radiographs ; 8. Developing a system for viewing abdominal radiographs; 9. Developing a system for viewing bone and joint radiographs; 10. Distinguishing normal from abnormal structures on chest and abdominal radiographs; 11. Identifying gross bone or joint abnormalities in skeletal radiographs; 12. Interpretation of routine basic imaging tests; 13. Plain chest radiographs that demonstrated common conditions, some of which were life threatening and included total lung collabs, pneumoperitoneum, and multiple pulmonary metastases 14. Imaging technique for viewing brain anomaly and diseases; 15. Interventional radiology as a performance of usually minimally invasive medical procedures, with the guidance of imaging technologies; 16. Combined imaging techniques –basic knowledge (PET)/CT.</p>					
12	Methods of learning: Theoretical and practical skills, projects					
13	Total amount of available time: 4 ECTS x 30 =120 hours					
14	Distribution of available time: 30+15+15+15+45 =120 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours		
16	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	15 hours		
		16.3	Home learning	45 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Fred A. Mettler, JR	Essentials Of Radiology	Elsevier	2018

		2.	William Herring	Learning Radiology: Recognizing the Basics	Kindle Edition	2019
		3.	GeorgeW. Estman, Christoph Wald , Jane Crossin	Getting Started in Clinical Radiology	Thieme	2017
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Daniel Y.F. Chung, Dpanjali Mondal, Erskine J. Holmes, Rabesh Mara	Emergency Cross-sectional Radiology	Cambridge University Press	2012
		2.	Hariqubal Singh, Dinesh Prdesi	Radiology for undergraduates and general practitioners	Jaypee Brothers Medical Pub	2012
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	SURGICAL PROPEDEUTICS 1				
2.	Code	3MF126912				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	VII Semester – fourth year	7.	Number of ECTS	5	
8.	Professor (s)	Andreja Arsovski Aleksandar Mitevski				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): requiring basic theoretical and practical skills for clinical investigations in surgical patients					
11.	Contents of the course (per 15 weeks per semester): <ol style="list-style-type: none"> 1. Introduction in to surgical propedeutics 2. Diagnostic methods 3. Surgical anamnesis 4. Physical examination 5. Preparation for surgical intervention 6. Clinical investigation in neurosurgical patients 7. Clinical examination of the neck and thyroid gland 8. Clinical investigation of the breast 9. Clinical investigation for thoracic surgical pathology (two parts) 10. Clinical investigations in cardio surgery 11. Clinical investigations in vascular surgery 					
12.	Methods of learning: theoretical and practical learning					
13.	Total amount of available time: 5 ECTS x 30 hours = 150 hours 2+3+0 / week					
14.	Distribution of available time: 45 + 30 + 15 + 30 + 30 = 150 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning			15 weeks x 3 hours = 45hours
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)			15 weeks x 2 hours = 30 hours
16.	Other forms of activities	16.1	Projects			15 hours
		16.2	Individual work			30 hours
		16.3	Home learning			30 hours
17.	Method of assessment					
	17.1	Tests / Oral Exam			70 scores	
	17.2	Individual work (presentation, projects, practical)			10 scores	
	17.3	Activity and participation			20 scores	
18.	Assessment Criteria (scores/ points)			up to 50 points	5 (five).	(F)

		51 to 60 points	6 (six)	(E)
		61 to 70 points	7 (seven)	(D)
		71 to 80 points	8 (eight)	(C)
		81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course	
20.	Language of teaching / study		English	
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation	
22.	Literature			
	22.1	Basic literature		
		No	Author	Title
		1.	Walker HK, Hall WD, Hurst JW, editors.	Clinical Methods: The History, Physical, and Laboratory Examinations
				Publisher
				Year
				Butterworths
				1990
	22.2	Additional literature		
		No	Author	Title
		1.	Арсовски А, Митев К, Митевски А	Хирушка пропедевтика
				Publisher
				Year
				УГД Штип
				2020

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	INTERNAL MEDICINE 2			
2.	Code	3MF106812			
3.	Study program	General medicine			
4.	Organizer of the Study program	University Goce Delcev Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year / semester	VIII Semester – fourth year	7.	Number of ECTS credits	8
8.	Professor (s)	Group of Professors: Prof d-r Andon Cibisev Prof d-r Biljana Ilievska Popovska Ass Prof d-r Igor Nikolov Ass Prof d-r Valentina Velkoska Nakova Ass Prof d-r Gordana Kamceva Mihailova Ass Prof d-r Ivana Trajkovska Ass Prof d-r Ivica Smokovski			
9.	Requirements for enrolling the course	Requirement for attending the subject of Internal Medicine 2 is attendance of Internal Medicine 1, and condition for taking exam of Internal Medicine 2 is attendance and passed exam of Internal Medicine 1.			
10.	Aims of the course (competencies):	<ul style="list-style-type: none"> Acquiring skills and competencies for rational diagnosis and therapeutic treatment, based on etiopathogenesis and principles of clinical pharmacology Acquiring skills and competencies for rational clinical assessment and treatment of endocrine, hematology, gastroenterohepatology, and toxicology diseases Acquiring skills and competencies in rational use of investigations that in addition to basic clinical investigations result in diagnosis of diseases Acquiring skills and competencies in rational treatment based upon Evidence Based Medicine and internationally accepted Treatment Guidelines 			
11.	Contents of the course (per 15 weeks per semester):	<ul style="list-style-type: none"> Disorders and diseases of gastrointestinal system (4 blocks) Disorders and diseases of hematological system (4 blocks) Disorders and diseases of endocrine system and metabolism (4 blocks) Toxicology disorders and diseases (3 blocks) 			
12.	Methods of learning:	interactive lectures, exercises, projects, individual work, home learning			
13.	Total amount of available time:	8 ECTS x 30 hours = 240 hours			
14.	Distribution of available time:	45+30+30+60+75 = 240 hours (3+2+2)			
15.	Forms of teaching / learning activities	15.1.	Lectures / theoretical, contact teaching, e-learning	45 hours	

		15.2.	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours
16.	Other forms of activities	16.1.	Projects	30 hours
		16.2.	Individual work	60 hours
		16.3.	Home learning	75 hours
17.	Method of assessment			
	17.1.	Tests / Oral Exam		70 scores
	17.2.	Individual work (presentation, projects, practical)		10 scores
	17.3.	Activity and participation		20 scores
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five) (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
		91 to 100 points	10 (ten) (A)	
19.	Signature approval and entrance to the final exam / or transition in the next year		60% active participation at the course	
20.	Language of teaching / study		English	
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation	

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of the Course	INFECTIOUS DISEASES 2			
2.	Code	3MF107112			
3.	Study Program	General medicine			
4.	Organizer of the study program (unit or institute, Faculty, department)	University Goce Delcev Stip Faculty of Medical Sciences			
5.	Cycle (first, second and third cycle)	Integrated First and Second cycle			
6.	Academic year / semester	VIII Semester – fourth year	8.	Number of credits	5
8.	Professor (s)	Velo Markovski			
9.	Requirements for enrollment the Course	-			
10.	Purposes of the curriculum (competencies): Introduction to the basics of infectious diseases, therapy of infectious diseases, antibiotics, anti-viral drugs, antimycotics, basics of immunology, viral hepatitis, basics of intestinal infections, dehydration and rehydration				
11.	Content of the course program:				
12.	<p>Learning methods: Lectures, exercises, seminars research and practical activities.</p> <p>C) Lectures</p> <p>14. Respiratory infectious diseases</p> <p>15. • Influenza; upper respiratory infections</p> <p>16. • Pneumonia</p> <p>17. • Streptococcal infections, staphylococcal infections;</p> <p>18. • Sepsis, meningococcal infections</p> <p>19. • Rash fever</p> <p>20. • Hemorrhagic fever</p> <p>21. • I CNS nfectious diseases</p> <p>22. • Herpes Virus, Mononuclear Syndrome,</p> <p>23. • Parotitis epidemics</p> <p>24. • Anthro-p-zoonoses; Brucellosis, Leptospirosis,</p> <p>25. • Parasitic diseases</p> <p>26. • HIV - AIDS</p> <p>D) Exercises</p> <p>Treatment of a patient with a respiratory infection</p> <p>Treatment of a patient with a staphylococcal infection</p> <p>Treatment of a patient with herpes virus infection</p>				

	Lumbar puncture CNS infections Bacteremia and sepsis Treatment of a patient with zoonosis Treatment of a patient with HIV			
13.	Total available time		5 ECTS x 30 hours = 150 hours.	
14.	Distribution of available time		30+30+15=150 hours.	
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	30 hours
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	30 hours
16.	Other forms of activities	16.1	Project tasks	15 hours
		16.2	Individual tasks	0 hours
		16.3	Home learning	00 hours
17.	Method of assessment			
	17.1	Tests / oral exams		70 points
	17.2.	Seminars (paper / project - presentation: written and/or oral)		10 points
	17.3	Activity and participation		20 points
18.	Assessment Criteria (points / score)		up 50 points	5 (five) (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
		91 to 100 points	10 (ten) (A)	
19.	Signature requirement and passing the final exam		42 points acquired	
20.	Language of teaching / study		English	
21.	Method of monitoring the quality of teaching		Self-evaluation	

22.	Literature					
	22.1.	Required literature				
		No.	Author	Title	Publisher	Year
		1.	Mandell, Douglas, and Bennett's	Infectious disease essentials	Elsevier	
		2.	Velo Markovski	Authorized lectures	Faculty of Medical Sciences - UGD	
3.						

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	PSYCHIATRY			
2.	Code	3MF111312			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University - Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	VIII Semester - fourth year	7.	Number of ECTS	5
8.	Professor (s)	Prof. Dr. Kneginja Richter			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences):				
	1. Skills, knowledge and methods of diagnosis, epidemiology pathophysiology, differential diagnosis and treatment of psychiatric diseases.				
	2. Prevention in mental health				
11.	Contents of the course (per 15 weeks per semester):				

	Organic, including symptomatic, mental disorders Mental and behavioural disorders due to psychoactive substance use Schizophrenia, schizotypal and delusional disorders Mood [affective] disorders Neurotic, stress-related and somatoform disorders Behavioural syndromes associated with physiological disturbances and physical factors Disorders of adult personality and behavior Mental Health of Children and Adolescents					
12.	Methods of learning: Interactive teaching including lectures, group work, role play, video presentations, and case analysis.					
13.	Total amount of available time: 5 ECTS x 30 hours = 150 hours					
14.	Distribution of available time: 30+30+0+45+45 = 150 hours (2+2+0)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours		
16.	Other forms of activities	16.1	Projects	0 hours		
		16.2	Individual work	45 hours		
		16.3	Home learning	45 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	David Semple, Roger Smyth	Oxford Handbook of Psychiatry	Oxford Handbooks	2019
		2.	Thomas Schlaepfer, Charles Nemeroff	Neurobiology of Psychiatric Disorders	Elsevier	2012
		3.	Higgins	The Neuroscience of Clinical Psychiatry	Lippincott Williams&Wilki.	2018
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Kaplan & Sadock's	Concise Textbook of Clinical Psychiatry	Wolters Kluwer	2017
		2.	Jess H. Shatkin	Child & Adolescent Mental Health: A Practical, All-in-One Guide	W. W. Norton & Company	2015
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	SURGICAL PROPEDEUTICS 2			
2.	Code	3MF127012			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	VIII Semester – fourth year	7.	Number of ECTS	4
8.	Professor (s)	Andreja Arsovski Aleksandar Mitevski			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): requiring basic theoretical and practical skills for clinical investigations in surgical patients				
11.	Contents of the course (per 15 weeks per semester): 1. Clinical investigations in abdominal surgery (four parts) 2. Clinical investigations in urology 3. Clinical investigations in peripheral vascular disease 4. Clinical investigations in locomothory system trauma 5. Clinical investigations in thoracic and abdominal trauma 6. Current diagnostics in surgery (two pars)				
12.	Methods of learning: theoretical and practical learning				
13.	Total amount of available time: 4 ECTS x 30 hours = 120 hours				
14.	Distribution of available time: 30 + 15 + 15 + 30 + 30 = 120 hours				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	15 weeks x 2 hours = 30hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 weeks x 1 hours = 15 hours	
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	30 hours	
		16.3	Home learning	30 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam	70 scores		
	17.2	Individual work (presentation, projects, practical)	10 scores		
	17.3	Activity and participation	20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course		
20.	Language of teaching / study		English		
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation		
22.	Literature				
	22.1	Basic literature			
No		Author	Title	Publisher	Year
	1.	Walker HK, Hall WD, Hurst JW, editors.	Clinical Methods: The History, Physical, and Laboratory Examinations	Butterworths	1990
	22.2	Additional literature			
	No	Author	Title	Publisher	Year
	1.	Арсовски А, Митев К, Митевски А	Хирушка пропедевтика	УГД Штип	2020

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	NUCLEAR MEDICINE			
2.	Code	3MF109412			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	VIII Semester – fourth year	7.	Number of ECTS	4
8.	Professor (s)	Professor Marina Vlajkovic Professor Emilija Janevik Professor Zdenka Stojanovska			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): Establishment and extension of basic theoretical knowledge of physics and its application in medical science.				
11.	Contents of the course (per 15 weeks per semester): Course content: Structure of Matter. Radioactivity. Law of Radioactive Decay. Interaction of ionizing radiation with matter. Detection of ionizing radiation. Gamma camera. Dosimetry. Biological effects of ionizing radiation. Radiopharmaceuticals - definition, formulation, role, regulation. Labelling of blood cells Application of nuclear medical examinations in cardiology. Applying Nuclear Medical Examination to Nephrology. Application of Nuclear Medical Trials - Diseases of the Gastrointestinal and Hepatobiliary System. Applying nuclear medical examinations to pulmonary disease. Application of Nuclear Medical Research in Oncology and Bone Disease. Positron emission tomography - PET. Basics of radionuclide therapy				
12.	Methods of learning: Discussions, laboratory and numerical exercises, interpretation the pictures of the nuclear medicine procedures-normal and pathological scans , homework, home learning.				
13.	Total amount of available time: 120 hours				
14.	Distribution of available time: 30+15+15+30+15=120 hours				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours	
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	30 hours	
		16.3	Home learning	30 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam		70 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points		5 (five). (F)
			51 to 60 points		6 (six) (E)
			61 to 70 points		7 (seven) (D)
			71 to 80 points		8 (eight) (C)
			81 to 90 points		9 (nine) (B)
	91 to 100 points		10 (ten) (A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course	
20.	Language of teaching / study			English	
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation	
22.	Literature				
	22.1	Basic literature			
		No	Author	Title	Publisher
1.		International Atomic Energy Agency, Vienna.	Appropriate use of FDG-PET for the management of cancer patients.	International Atomic Energy Agency, Vienna	2010
2.	International Atomic Energy Agency, Vienna.	Clinical PET/CT atlas : a casebook of imaging in oncology.	International Atomic Energy Agency, Vienna.	2015	

		3	Volterrani D, Erba, PA, Carrio I, Strauss HW, Mariani G.	. Nuclear Medicine Textbook.	Springer Nature Switzerland	2019	
		4.	Zdenka Stojanovska	Lecture notes	UGD		
		5.	Gopal B. Saha	Physics and radiobiology of Nuclear medicine, Fourth edition	Springer	2013	
	22.2	Additional literature					
		No	Author	Title	Publisher	Year	
		1.	Vlajković Marina	Osnovi kliničke nuklearne medicine sa praktikumom	Medicinski fakultet u Nišu	2020	
		2.	IAEA	Nuclear cardiology : guidance on the implementation of SPECT myocardial perfusion imaging	International Atomic Energy Agency	2016	
		3.	Jerrold T. Bushberg, J. Anthony Seibert, Edwin M Leidholdt, John M Boone	The Essential Physics of Medical Imaging; Third edition;	Lippincott Williams & Wilkins;	2012	

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	CLINICAL BIOCHEMISTRY				
2.	Code	3MF110612				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	VIII Semester – fourth year	7.	Number of ECTS	4	
8.	Professor (s)	Prof. Dr. Tatjana Ruskovska Assistant Prof. Dr. Aleksandra Atanasova - Bosku				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): Within this course students will gain knowledge about the specificities in organization of the work process in clinical biochemistry laboratories, and the most common clinical biochemistry tests. The students will learn the analytical methods and techniques, as well as diagnostic significance, advantages and limitations, and most common interferences for each particular method. They will learn how to perform most of the analyses manually, but they will also learn about the advantages of automatization of the clinical biochemistry laboratories, which allows fast and accurate laboratory diagnostics.					
11.	Contents of the course (per 15 weeks per semester):					
	<ul style="list-style-type: none"> ▪ <u>Lectures</u> <ul style="list-style-type: none"> ○ Definition of Clinical biochemistry. Organization of the work in a clinical biochemistry laboratory. ○ Laboratory methods for diagnostics and monitoring of the treatment in Diabetes mellitus, part 1 – blood glucose, glucose and ketones in urine, oGTT. ○ Laboratory methods for diagnostics and monitoring of the treatment in Diabetes mellitus, part 2 – HbA1c, microalbuminuria, C-peptide, insulin. ○ Blood lipids and lipoproteins. Total cholesterol, triglycerides, HDL- and LDL-cholesterol. Apolipoproteins. ○ Interferences and quality control in Clinical biochemistry. ○ Plasma proteins – diagnostic significance and methods for determination. ○ Specific proteins – diagnostic significance and methods for determination. <ul style="list-style-type: none"> ▪ First colloquium ○ Urea and creatinine – diagnostic significance and methods for determination. ○ Bilirubin and uric acid – diagnostic significance and methods for determination. ○ Clinical enzymology – general concept and basic principles. Determination of enzymatic activity. ○ Diagnostic significance of the most common enzymes in clinical practice. ○ Electrolytes, calcium, magnesium and phosphor. Iron, TIBC, transferrin and ferritin. ○ Enzyme-immunochemistry methods in clinical biochemistry. <ul style="list-style-type: none"> ▪ Second colloquium ▪ <u>Laboratory work</u> 					

	<ul style="list-style-type: none"> ○ Blood collection systems. Pipettes and techniques of pipetting. Spectrophotometry and centrifugation. ○ Determination of serum glucose with GOD-PAP method. Determination of glucose and ketones in urine. ○ Determination of serum glucose with hexokinase method. ○ Determination of serum total cholesterol and triglycerides with enzymatic methods. ○ Determination of HDL- and LDL-cholesterol with precipitation methods. ○ Determination of serum total protein and albumin. ○ Specific proteins – determination with immuno- turbidimetric and nephelometric methods. <ul style="list-style-type: none"> ▪ First colloquium ○ Creatinine in serum and urine. Creatinine clearance. ○ Determination of bilirubin in serum and urine. ○ Determination of serum AST and ALT. ○ Determination of amylase in serum and urine. ○ Determination of iron and TIBC in serum. ○ Determination of serum cortisol with EIA assay. <ul style="list-style-type: none"> ▪ Practical exam 																				
12.	<p>Methods of learning:</p> <ul style="list-style-type: none"> ▪ <u>Lectures</u> <ul style="list-style-type: none"> ○ Lectures with large group of students. ○ Multimedia. ○ E-learning. ○ Individual consultations ○ Consultations with small groups of students ▪ <u>Laboratory work</u> <ul style="list-style-type: none"> ○ Laboratory practical work, with small groups of students ○ Seminars, with larger groups of students ○ Practical exam. 																				
13.	Total amount of available time: 4 credits x 30 hours = 120 hours																				
14.	Distribution of available time: 30+15+15+30+15 = 120 hours (2+1+1)																				
15.	<table border="1"> <tr> <td rowspan="2">Forms of teaching / learning activities</td> <td>15.1</td> <td>Lectures / theoretical, contact teaching, e-learning</td> <td>30 hours</td> </tr> <tr> <td>15.2</td> <td>Exercises (practical, laboratory, theoretical, seminars, team work)</td> <td>15 hours</td> </tr> </table>	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours													
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19.	Signature approval and entrance to the final exam/ or transition in the next year	60% active participation at the course																			
20.	Language of teaching / study	English																			
21.	Methods of measuring / monitoring the quality of teaching	Standardized tests, observation, survey Self-evaluation																			
22.	Literature																				
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Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	GYNECOLOGY AND OBSTETRICS 1			
2.	Code	3MF115912			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	IX Semester – fourth year	7.	Number of ECTS	8
8.	Professor (s)	Prof. D-r Gligor Dimitrov			
9.	Requirements for enrolling the course	Enrolled fifth year			
10.	<p>Aims of the course (competences): Acquiring knowledge, skills and competencies for prevention, diagnosis and treatment of gynecologic diseases in women, through theoretical interactive lectures and hands-on practical training under supervision.</p> <p>Predicted outcome of the course: Medical student-future MD will be fully trained to work in the primary level of healthcare (medical office for general family practice), to prevent, diagnose, treat and follow-up certain number of gynecologic diseases and conditions in women, to provide competent first aid in emergency situations in gynecology as well as to be able to recognize the need for referral to a specialist obstetrician/gynecologist in a higher level of healthcare (for consultation or hospitalization).</p>				
11.	<p>Contents of the course (per 15 weeks per semester):</p> <p>Theoretical lectures:</p> <ol style="list-style-type: none"> 1. introduction to gynecology, clinical anatomy and embryology of the genital tract in women, periods in life of women and their separate characteristics 2. clinical aspects of evolution and menstrual cycle, menstrual problems and premenstrual syndrome, sexual hormones 3. symptoms and signs of gynecologic diseases and conditions, clinical evaluation of a gynecology patient, gynecologic history, general and pelvic examination, breast self exam and clinical examination of breasts (breast ultrasound) 4. diagnostic methods in gynecology (laboratory: biochemistry, microbiology, cytopathology, cytogenetics, as well as imaging methods such as radiology, ultrasound, colposcopy, endoscopy-hysteroscopy and laparoscopy, etc.) 5. functional and psychosomatic diseases in gynecology, pain-syndrome in gynecology 6. precancerous, benign and malignant diseases of female genitals and breasts 7. inflammatory and sexually-transmitted diseases of female genitals, urogynecologic diseases and conditions 8. infertility, human reproduction, fertility control (contraception), family planning 9. emergency in gynecology, first aid in the general medical office, malpractice, medical malpractice and professional liability 10. gynecologic surgery (operative oncogynecology, urogynecology and minimally invasive gynecologic surgery: hysteroscopy and laparoscopy), postoperative depressive syndrome in gynecologic patients 11. diseases of the breasts in women, preventative gynecology in primary level of healthcare 12. guidelines of general and reproductive health in women in contemporary societies, unfavourable environmental influences on women's health <p>Practical training:</p> <ol style="list-style-type: none"> 1. taking and interpretation of gynecologic history, properly and completely 2. pelvic exam under vaginal specula / ecarters, bimanual pelvic exam and evaluation of all female genital organs 3. recto-vaginal and rectal examination, examination for determining inguinal/femoral hernias, palpation of the abdomen 4. catheterization (with Nelaton's and Foley's catheter), giving enema 5. taking cervical and vaginal bacterial swabs, as well as for chlamydia and mycoplasma / ureaplasma, perineal/perianal swab for group B streptococcus 6. taking Pap-smears (classical and cyto-screen / cyto-fast) 7. recognition of cervical pathology with acetic acid and Lugol's solution, colposcopy-normal and pathological colposcopic findings, colposcope as an instrument 8. evaluation of the extent of genital bleeding (distinction between spotting, 				

	slugging, medium and profuse bleeding) and determining the level of emergency, vaginal tamponade, observation of demonstration of uterine tamponade 9. patient preparation for gynecologic surgery 10. recognizing instruments and devices for gynecologic surgery, recognizing the most frequent devices and instruments in gynecology, sterilization of instruments 11. education about preventive monthly breast self-exam in women, performance of preventive annual clinical breast examination in women, breast ultrasound 12. education and psychological support of infertile couple, education and psychological support in post-operative depression syndrome in gyn patients					
12.	Methods of learning: Theoretical Interactive lectures, problem-solving cases, practical exercises on phantom-dolls, simulations, practical training with patients under supervision, individual projects with mentor, research studies, practice in various environments (medical office, hospital, clinic, outdoors)					
13.	Total amount of available time: 8 ECTS x 30 h = 240 hours 3+4+1 / per week					
14.	Distribution of available time: 90+120+10+10+10 = 150 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	90 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	120 hours		
16.	Other forms of activities	16.1	Projects	10 hours		
		16.2	Individual work	10 hours		
		16.3	Home learning	10 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Prof.Gligor Dimitrov,	Authorized lectures in Gynecology		2017
		2.	Mladenovic D. et al	Gynecology and Obstetrics	Institution For University manuals, Belgrade	2015
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Berek and Novak	Gynecology	.	2014
		2.	DiSaia and Creasman	Clinical Gynecologic Oncology		2015
		3.		The Johns Hopkins Manual of Gynecology and Obstetrics		2015

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	SURGERY 1				
2.	Code	3MF117412				
3.	Study program	General Medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	IX Semester – fourth year	7.	Number of ECTS	8	
8.	Professor (s)	Andreja Arsovski Aleksandar Mitevski Aleksandar Nikoloc Konstantin Mitev Kiril Lozance				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): Introduction and acquiring knowledge of the basic surgical principles					
11.	Contents of the course (per 15 weeks per semester):					
	<ol style="list-style-type: none"> 1. Introduction and history of surgery 2. Disinfection and sterilization 3. Surgical infections 4. Trauma 5. Mechanical trauma 6. Thermal trauma 7. Chemical trauma 8. Shock and reanimation 9. Anesthesia in surgery 10. Bleeding and hemostasis 11. Transfusion in surgery 12. Current and contemporary diagnostic methods in surgery 					
12.	Methods of learning: theoretical and practical learning					
13.	Total amount of available time: 8ECTS x 30 hours = 240 hours					
14.	Distribution of available time: 45+30+30+60+75 = 240hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	15 weeks x 3 hours = 45hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 weeks x 2 hours = 30 hours		
16.	Other forms of activities	16.1	Projects	30 hours		
		16.2	Individual work	60 hours		
		16.3	Home learning	75 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam	70 scores			
	17.2	Individual work (presentation, projects, practical)	10 scores			
	17.3	Activity and participation	20 scores			
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Gerard Doherty	Current Diagnosis and Treatment Surgery	McGraw-Hill	2015
2.	F. Brunicardi et al.	Schwartz's Principles of Surgery	McGraw-Hill	2014		

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	PEDIATRICS 1			
2.	Code	3MF110812			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	IX Semester – fourth year	7.	Number of ECTS	6
8.	Professor (s)	Prof. Elizabeta Zisovska			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): Introduction to the General Pediatrics as a clinical discipline, approach to the child as a patient, etiology and pathophysiology of the diseases in childhood				
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> • Introduction to the Pediatrics, deontology, ethics and approach to the child as a patient • Preventive pediatrics and epidemiology of the pediatric diseases • The importance and mode of taking history of the disease, examination, diagnostics • Developmental phases of the childhood, specificity • Transition to the extra uterine life, neonatal resuscitation, newborn child • Admission to the nursery, the first examination, birth injuries • Genetics in children’s diseases, congenital anomalies • Nutrition in childhood • Immunity of the child, immunization, and immunological diseases • Allergy in childhood • Homeostatic disturbances in childhood • Specificity of pharmacotherapy in childhood Practical educational units: discussion and work out (completion): <ul style="list-style-type: none"> • Taking the history of the pediatric disease, specificities and genealogy • Admission examination • Integrative approach: history and examination of the sick child • Admission and examination: approach to the patient and the family (communication) • Primary resuscitation-steps and order of the steps • Breastfeeding, advantages of the breastmilk, indication for supplementation • Introduction to the principles of the Baby friendly hospitals • Calculation of the nutritional needs of the children of different ages • Calendar of immunization, indications and contraindications • Rickets-etiology, clinical signs, prevention and treatment • Diagnostic methods in pediatrics • Management of the pediatric therapy, dose and formulation 				
12.	Methods of learning: -lectures (presentations), -problem based learning, -computer learning, -consultation, -practical exercises (taking history and physical examination of the child, understanding the results, interpreting X-ray pictures, CT scans, ECG)				
13.	Total amount of available time: 6 ECTS x 30 hours = 180 hours				
14.	Distribution of available time: 30+30+15+45+60 = 240 hours (2+2+1)				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours	
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	45 hours	
		16.3	Home learning	60 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam		70 scores	

	17.2	Individual work (presentation, projects, practical)	10 scores		
	17.3	Activity and participation	20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five)	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
			91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course		
20	Language of teaching / study		English		
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation		
22.	Literature				
	22.1	Basic literature			
		No	Author	Title	Publisher
		1.	Zitelli B.G and Davis H. V	Atlas for pediatric physical diagnostics	Elsevier eBook ISBN: 9780323511841 Hardcover ISBN: 9780323393034
		2.	Robert Kliegman Joseph St. Geme.	Nelson Textbook of Pediatrics, 2-Volume Set 21st Edition.	Elsevier Hardcover ISBN: 9780323568906 Hardcover ISBN: 9780323529501 eBook ISBN: 9780323568890 eBook ISBN: 9780323568883
		3.	Tricia Gomella, M. Cunningham and Fabien Eyal	Neonatology 7th Edition (Neonatology (Gomella)) 7th Edition	McGraw-Hill Education / Medical; ISBN: 978-0071768016
	22.2	Additional literature			
		No	Author	Title	Publisher
		1.	McInerney T.K, Adam H.M, Campbell D.E, Foy J.M, Kamat, D.M,	AAP Textbook of Pediatric Care, 2nd Ed	American Academy of Pediatrics 978-1-61002-047-3 ISBN paper: 978-1-58110-966-5
		2.	Internet based resources	www.aap.org www.who.int www.unicef.org	
		3.			

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	ORTHOPEDECS			
2.	Code	3MF117812			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	IX Semester – fourth year	7.	Number of ECTS	4
8.	Professor (s)	Assistant professor Dr. Jasmin Ciriviri			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): Basic diagnosis and treatment of orthopedics disease and muskulosceletal trauma.				
11.	Contents of the course (per 15 weeks per semester): Theoretical study units <ol style="list-style-type: none"> 1. Development of orthopaedics 2. Imaging of the musculoskeletal system 3. Bone and joint infection 4. Rheumatic Diseases diagnosis and manegment 5. Neuromuscular diseases 6. Idiopathic and heritable disorders 7. Musculosceletal Neoplasms 8. Osteoarthritis 9. Osteoporosis 10. Pediatric leg and knee 11. Pediatric foot 12. Scoliosis and kiphosis 13. The shoulder ,arm and hand 14. Soft tissue injuries of the knee 15. Musculosceletal traumatology Practical study units <ol style="list-style-type: none"> 1. Plain radiography,CT and MRI 2. Phisical examination 3. Imobilisation and splinting 4. Measuring in orthopaedics 5. Ultrasonography in children 6. Ultrasonography in adults 7. Bone density measuring- methods 8. Labaratory features 9. Medical management 10. Surgical management in orthopaedics 11. Surgical management in orthopaedics 12. Fractures management 13. Fractures management 14. Fractures management 15. Punction and biopsy in orthopaedics disorders 				
12.	Methods of learning: Lectures,Exercises, Projects,Individual work, Home learning				
13.	Total amount of available time: 4 EKTS x 30 hours=120 hours				
14.	Distribution of available time: 30+15+15+30+15=120				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours	
16.	Other forms of activities	16.1	Projects	15 hours	
		16.2	Individual work	30 hours	
		16.3	Home learning	30 hours	
17.	Method of assessment				
17.	17.1	Tests / Oral Exam		70 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)

		61 to 70 points	7 (seven)	(D)
		71 to 80 points	8 (eight)	(C)
		81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year	60% active participation at the course		
20.	Language of teaching / study	English		
21.	Methods of measuring / monitoring the quality of teaching	Standardized motor tests, observation, survey Self-evaluation		
22.	Literature			
	22.1	Basic literature		
		No	Author	Title
		1.	Weinstein, Buckwalter	TUREKS Orthopaedics Principles and their application
		2.	Riutz/Cicero	Emergency Management of skeletal trauma
	22.2	Additional literature		
		No	Author	Title
		1.	A.H.Crenshaw	Campbells operative orthopaedics
			Publisher	Year
			J.B. LIPPINCOTT Company Philadelphia	2015
			Mosby	2019
			Mosby	2014

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	TRANSFUSIOLOGY			
2.	Code	3MF112012			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated first and second cycle			
6.	Academic year/ semester	IX Semester – fourth year	7.	Number of ECTS	4
8.	Professor (s)	Assist. Prof. Rada M. Grubovic Rastvorceva			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): Gaining of theoretical and practical knowledge in the field of transfusion medicine, which will help the students to learn the principles of voluntary blood donation, special types of blood donation – autologous and apheresis, blood processing and production of blood products, immunohematology testing and testing for transfusion transmissible infections, clinical use of blood, basic principles of hemostasis, laboratory and clinical diagnostic of hemorrhagic and thrombotic diseases, its prevention and therapy, as well as transfusion aspects in transplantation of organ and cells.				
11.	Contents of the course (per 15 weeks per semester): Theoretical classes <ul style="list-style-type: none"> ▪ History of transfusion medicine ▪ Blood supply, recruitment of blood donors and blood donation ▪ Special types of blood donation – autologous donation and apheresis ▪ Blood group systems – ABO, RhD, Kell, MNS and other blood group systems – biology and clinical significance ▪ HLA system in transfusion medicine ▪ Cellular therapies – biology, types and therapeutic use ▪ Transfusion aspects in transplantation of organ and cells ▪ Immunohematology testing ▪ Transfusion transmitted infections ▪ Blood components and blood products ▪ Clinical uses of blood components ▪ Transfusion therapy in specific clinical situations ▪ Ethical aspects of blood transfusion and Quality management in transfusion medicine ▪ Adverse events and adverse reactions of blood transfusion and Hemovigilance ▪ Diagnosis and treatment of hemorrhagic and thrombotic diseases Practical classes				

	<ul style="list-style-type: none"> ▪ Promotion of blood donation and organization of blood drive ▪ Blood donor medical assessment ▪ Blood collection and possible adverse events ▪ Types of blood bags, anticoagulants and equipment used for blood donation ▪ Laboratory testing of donated blood - laboratory techniques of ABO and RhD typing and techniques for testing of transfusion transmissible infections ▪ Laboratory methods of detection of irregular antierythrocyte antibodies - with indirect and direct antiglobulin test (IAT and DAT) and with enzyme tests ▪ Laboratory techniques of pretransfusion testing - Cross-matching, Selectogen I and II, confirmatory ABO and RhD blood typing ▪ Characteristics of blood products and preparation of blood products ▪ Storage and transportation of blood products ▪ Basic and specific tests of hemostatic system ▪ Laboratory support of anticoagulation 					
12.	Methods of learning:					
13.	Total amount of available time: 4 ECTS x 30 hours = 120					
14.	Distribution of available time: 30+15+15+30+15 = 120 (2+1+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	30 hours		
		16.3	Home learning	30 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five)	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
No		Author	Title	Publisher	Year	
1.		Jeffrey McCullough	Transfusion Medicine, 4 th ed.	Wiley-Blackwell	2016	
2.		Derek Norfolk	Handbook of Transfusion Medicine, 5 th ed.	United Kingdom Blood Service	2013	
	3.	Beth Shaz, Christopher D. Hillyer, Morayama Gill	Transfusion Medicine and Hemostasis, 3 rd ed.	Elsevier Science	2018	
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Mark K. Fung, Brenda J. Grossman, Christopher D. Hillyer, Connie M. Westhoff	AABB Technical Manual, 18 th ed.	American Association of Blood Banks	2014
		2.	Geoff Daniels, Imelda Bromilow	Essential Guide to Blood Groups, 2 nd ed.	Wiley-Blackwell	2010
		3.	Harvey G. Klein, David J. Anstee	Mollisin's Blood Transfusion in Clinical Medicine, 12 th ed.	Wiley-Blackwell	2014

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	GYNECOLOGY AND OBSTETRICS 2			
2.	Code	3MF116012			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	X Semester – fourth year	7.	Number of ECTS	8
8.	Professor (s)	Prof. D-r Gligor Dimitrov			
9.	Requirements for enrolling the course	Enrolled fifth year, Professor's signature for finished course in Gynecology 1			
10.	<p>Aims of the course (competences): Acquiring knowledge, skills and competencies for prevention, diagnosis and treatment of obstetrical conditions and diseases in pregnant women, through theoretical interactive lectures and hands-on practical training under supervision.</p> <p>Predicted outcome of the course: Medical student-future MD (general practitioner/family doctor) will be fully trained to work in the primary level of healthcare (medical office for general family practice), to prevent, diagnose, treat and follow-up certain number of obstetrical diseases and conditions in pregnant women, to perform prenatal follow up of normal pregnancy, to perform a normal vaginal delivery, breech delivery and primary resuscitation of the newborn, to provide competent first aid in emergency obstetrical situations as well as to be able to recognize the need for referral to a specialist obstetrician/gynecologist in a higher level of healthcare (for consultation or hospitalization).</p>				
11.	<p>Contents of the course (per 15 weeks per semester):</p> <p>Theoretical lectures:</p> <ol style="list-style-type: none"> 1. introduction and historical development of obstetrics, physiology of human reproduction, conception, diagnostics of pregnancy 2. morphological and functional development of the embryo and fetus, placenta and fetal membranes, placental hormones, maternal adaptation to the pregnancy, normal and abnormal female pelvises 3. normal: pregnancy, labor, delivery and puerperium 4. risk, pathological and problem pregnancy, abnormal labor, delivery and puerperium, complications of normal and breech delivery, multiple gestation 5. antenatal healthcare, prenatal screening and diagnostics in pregnancy 6. diseases and abnormalities of the placenta and fetal membranes, diseases and abnormalities of the fetus and newborn 7. usage of medicines in pregnancy and breastfeeding, hygiene, nutrition and dietetics in pregnancy, oral health in pregnancy 8. characteristics of obstetric history, examination and clinical evaluation of a pregnant woman and parturient woman 9. obstetric preventative programs, follow up of normal pregnancy, contemporary active management of normal and breech labor and delivery in primary level of healthcare 10. indications for cesarean section and other obstetrical operations and interventions, instrumental vaginal delivery, repair of tears of the lower genital tract, episiotomy, sutures 11. types and techniques of abortion, first aid and management of complications and emergency obstetrical conditions / situations 12. unfavorable environmental influences on the health of the pregnant woman and the fetus, guidelines for general and reproductive health of women in contemporary societies, maternal and perinatal mortality rate, health education in pregnancy and puerperium, medico-legal aspects of pregnancy and delivery <p>Practical training:</p> <ol style="list-style-type: none"> 1. complete and proper taking and interpreting of obstetrical history 2. signs of pregnancy on bimanual obstetrical exam, antenatal follow ups of normal pregnancy month-by-month, different follow up in each lunar month, interpretation of results, education of the pregnant woman about hygiene and nutrition in pregnancy 3. healthcare of a pregnant woman, recommendations and education of the pregnant women about every aspect of the life in pregnancy, education of the couple in the School for parents: education and psychological support in preparation for labor and delivery, breastfeeding and taking care for the 				

	<p>newborn, preservation of stem cells from cord blood and cord tissue after delivery, UNICEF concept: Hospitals-friends of mothers and babies</p> <p>4. Leopold maneuvers, listening to fetal heartbeat with Pinnard's fetoscope, cardiotocography for fetal heart / uterine contractions tracing, differentiation between normal, non-reassuring and pathological non-stress test, assessment of the need for urgency</p> <p>5. preparation of the parturient woman for labor and delivery, pelvic measurement, management of normal labor, catheterization with Nelathon's and Foley's catheter, giving enema</p> <p>6. contemporary active management of normal labor and delivery</p> <p>7. first care and primary resuscitation of the newborn immediately after delivery, assessment of the detachment of placenta in the third phase of delivery, follow up vital parameters and the amount of bleeding in the fourth phase of delivery</p> <p>8. breech delivery (manual help-Bracht maneuver, manual extraction Mauriceau-Smellie-Veit maneuver)</p> <p>9. education for breastfeeding, methods for management of plugged milk duct, medical nurse home patronage</p> <p>10. preparation for obstetric operation: caesarean section, cerclage, instrumental vaginal delivery</p> <p>11. instruments and devices for abortion, obstetrical operation/surgery/intervention</p> <p>12. education and psychological support of an infertile couple, for postoperative depressive syndrome and situations after artificial abortion, spontaneous miscarriage, preterm premature delivery, fetal demise, stillbirth, neonatal death, etc</p>					
12.	<p>Methods of learning: Theoretical Interactive lectures, problem-solving cases, practical exercises on phantom-dolls, simulations, practical training with patients under supervision, individual projects with mentor, research studies, practice in various environments (medical office, hospital, clinic, outdoors)</p>					
13.	<p>Total amount of available time: 8 ECTS x 30 h = 240 hours 3+4+1 / week</p>					
14.	<p>Distribution of available time: 90+120+10+10+10 = 240 hours</p>					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	90 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	120 hours		
16.	Other forms of activities	16.1	Projects	10 hours		
		16.2	Individual work	10 hours		
		16.3	Home learning	10 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Prof.Gligor Dimitrov,	Authorized lectures in Gynecology		2017
2.	Mladenovic D. et al	Gynecology and Obstetrics	Institution For University manuals,	2015		

					Belgrade	
		3.	Pshyrembel W	Practical Obstetrics		2012
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Gabbe et al	Obstetrics:Normal and problem pregnancies	.	2014
		2.	Cunningham et al	William's Obstetrics		2015
		3.		The Johns Hopkins Manual of Gynecology and Obstetrics		2011

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	SURGERY 2				
2.	Code	3MF117512				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	X Semester – fifth year	7.	Number of ECTS	8	
8.	Professor (s)	Andreja Arsovski Aleksandar Mitevski Aleksandar Nikoloc Konstantin Mitev Kiril Lozance				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): acquiring knowledge and surgical approach to the diseases that are of interest in surgery					
11.	Contents of the course (per 15 weeks per semester): <ol style="list-style-type: none"> 1. Neurosurgery 2. Diseases of the breast and thyroid gland 3. Surgical diseases of the thoracic wall and pleura 4. Surgical diseases of the lung 5. Acute abdomen 6. Abdominal wall hernia and bowel obstruction 7. Stomach and pancreas 8. Small and large bowel 9. Surgery of the spleen and hepato-billiary tract 10. Trauma of the extremities 11. Cardiovascular surgery 12. Trauma of the abdomen and torax 					
12.	Methods of learning: theoretical and practical learning					
13.	Total amount of available time: 8ECTS x 30 hours = 240 hours					
14.	Distribution of available time: 45+30+30+60+75 = 240hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning		15 weeks x 3 hours = 45hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		15 weeks x 2 hours = 30 hours	
16.	Other forms of activities	16.1	Projects		30 hours	
		16.2	Individual work		60 hours	
		16.3	Home learning		75 hours	
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points		5 (five).	(F)
			51 to 60 points		6 (six)	(E)
			61 to 70 points		7 (seven)	(D)
			71 to 80 points		8 (eight)	(C)

		81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year	60% active participation at the course		
20.	Language of teaching / study	English		
21.	Methods of measuring / monitoring the quality of teaching	Standardized motor tests, observation, survey Self-evaluation		
22.	Literature			
	22.1	Basic literature		
		No	Author	Title
		1.	Gerard Doherty	Current Diagnosis and Treatment Surgery
		2.	F. Brunicardi et al.	Schwartz's Principles of Surgery
	22.2	Additional literature		
		No	Author	Title
		1.		
		2.		
		3.		

Annex 3		Program of the Course for Integrated First and Second cycle		
1.	Title of Course	PEDIATRICS 2		
2.	Code	3MF110912		
3.	Study program	General medicine		
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences		
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle		
6.	Academic year/ semester	X Semester – fifth year	7.	Number of ECTS
				6
8.	Professor (s)	Prof. Elizabeta Zisovska		
9.	Requirements for enrolling the course	None		
10.	Aims of the course (competences): Introduction to the specific Pediatrics, and the diseases of the particular systems in the pediatric age, diagnosis, therapy and prognosis			
11.	<p>Contents of the course (per 15 weeks per semester):</p> <ul style="list-style-type: none"> • diseases of the respiratory system in childhood • diseases of the cardiovascular system in childhood • diseases of the gastrointestinal system in childhood • diseases of the nervous system in childhood • diseases of the endocrine system and rheumatic diseases in childhood • diseases of the urinary system in childhood • diseases of the metabolism and nutrition in childhood • diseases of the locomotor system in childhood • hemato oncologic diseases in childhood • infections in children • surgical problems in childhood • emergency in childhood; psychological and mental diseases <p>Practical educational units: discussion and work out (completion):</p> <ul style="list-style-type: none"> • case scenarios/patients with respiratory diseases (history, physical examination, therapy) • case scenarios/patients with cardiovascular diseases (history, physical examination) • case scenarios/patients with gastrointestinal diseases (history, physical examination) • case scenarios/patients with nervous diseases (history, physical examination) • case scenarios/patients with endocrine or rheumatic diseases (history, physical examination) • case scenarios/patients with urinary diseases (history, physical examination) • case scenarios/patients with nutrition disturbances • case scenarios/patients with hemato-oncologic diseases (history, physical examination) • case scenarios/patients with infections (history, physical examination, therapy) • admission and management of a child in emergency • rational use of medicines in childhood • management of children with special needs 			

12.	Methods of learning: -lectures (presentations), -problem based learning, -computer learning, -consultation, -practical exercises (taking history and physical examination of the child, understanding the results, interpreting X-ray pictures, CT scans, ECG)					
13.	Total amount of available time: 6 ECTS x 30 hours = 180 hours					
14.	Distribution of available time: 30+30+15+45+60 = 240 hours (2+2+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	30 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	45 hours		
		16.3	Home learning	60 hours		
17.	Method of assessment					
17.	17.1	Tests / Oral Exam			70 scores	
	17.2	Individual work (presentation, projects, practical)			10 scores	
	17.3	Activity and participation			20 scores	
18.	Assessment Criteria (scores/ points)				up to 50 points	5 (five). (F)
					51 to 60 points	6 (six) (E)
					61 to 70 points	7 (seven) (D)
					71 to 80 points	8 (eight) (C)
					81 to 90 points	9 (nine) (B)
				91 to 100 points	10 (ten) (A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year				60% active participation at the course	
20.	Language of teaching / study				English	
21.	Methods of measuring / monitoring the quality of teaching				Standardized motor tests, observation, survey Self-evaluation	
22.	Literature					
22.1	Basic literature					
	No	Author	Title	Publisher	Year	
	1.	Zitelli B.G and Davis H. V	Atlas for pediatric physical diagnostics	Elsevier eBook ISBN: 9780323511841 Hardcover ISBN: 9780323393034	2017	
	2.	Robert Kliegman Joseph St. Geme.	Nelson Textbook of Pediatrics, 2-Volume Set 21st Edition.	Elsevier Hardcover ISBN: 9780323568906 Hardcover ISBN: 9780323529501 eBook ISBN: 9780323568890 eBook ISBN: 9780323568883	2019	
3.	Tricia Gomella, M. Cunningham and Fabien Eyal	Neonatology 7th Edition (Neonatology (Gomella)) 7th Edition	McGraw-Hill Education / Medical; ISBN: 978-0071768016	2013		
22.2	Additional literature					
	No	Author	Title	Publisher	Year	
	1.	McInerney T.K, Adam H. M, Campbell D.E, Foy J.M, Kamat, D.M,	AAP Textbook of Pediatric Care, 2nd Ed	American Academy of Pediatrics 978-1-61002-047-3 ISBN paper: 978-1-58110-966-5	2016	
	2.	Internet based resources	www.aap.org www.who.int www.unicef.org			

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	ONCOLOGY			
2.	Code	3MF110012			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	X Semester – fifth year	7.	Number of ECTS	4
8.	Professor (s)	Ass. Professor Deva Petrova			
9.	Requirements for enrolling the course	None			
10.	<p>Aims of the course (competences):</p> <p>Cancer is now the leading cause of death in world. As a consequence, most physicians will be involved in the management of patients with problems related to cancer or its treatment. Medical students who go on to pursue careers in family medicine or other specialties will frequently be involved in managing patients with cancer. Despite this, there is a deficiency of focused oncology teaching during medical school. My personal opinion is that medical students lack adequate knowledge to assist cancer patients even after completion of their training. Because of that development of adequate goals and objectives is very important.</p> <p>Goals in our process of studying oncology will be :</p> <p>Goal 1: By graduation, medical students should understand the basic concepts of the science of oncology relevant to molecular biology, pathology and anatomy.</p> <p>Goal 2: By graduation, medical students should understand that cancer is a significant health issue. Medical students should also understand the risk factors for cancer and be able to identify opportunities for prevention and screening.</p> <p>Goal 3: By graduation medical students should know common presentations of cancer and how to make a diagnosis of cancer</p> <p>Goal 4: By graduation, medical students should know how cancer is managed from a multidisciplinary perspective. This will facilitate appropriate referral and care patterns for cancer treatment.</p> <p>Goal 5: By graduation, medical students should know the prognosis of common cancers.</p>				
11.	<p>Contents of the course (per 15 weeks per semester):</p> <p>1 Basic Science Of Oncology</p> <p>1.1 Molecular Biology</p> <p>1.1.1 Describe in general terms how cancers develop and be able to describe the hallmarks of cancer.</p> <p>1.1.2. Describe the step-wise progression from normal to pre-malignant to malignant histology and how this relates to the principles of screening and early detection.</p> <p>1.1.3. Demonstrate an understanding of how hormones influence development of certain cancers and how this may help direct management.</p> <p>1.1.4. Describe the important genetic/familial syndromes related to cancer development, identify their mode of inheritance and impact on cancer development.</p> <p>1.1.5. Describe how common carcinogens can cause cancer (e.g. cigarette</p> <p>1.2 Pathology</p> <p>1.2.1 Describe the histologic differences between benign and malignant tumors.</p> <p>1.2.2 Demonstrate an understanding of common pathological terminology used in cancer diagnosis (e.g. stage, grade).</p> <p>1.2.3 Describe the importance of tissue sampling for diagnosis of malignancy and for identification of molecular predictive factors.</p> <p>1.2.4 Demonstrate an understanding of the differences between fine needle aspiration biopsy, core biopsy, and surgical excision.</p> <p>1.2.5 Demonstrate an understanding of the role of different specialists in obtaining a tissue diagnosis of cancer (e.g. family physician, hematologist, radiologist, surgeon, oncologist).</p> <p>1.3 Anatomy</p> <p>1.3.1 Describe the most common patterns by which cancer spreads (i.e. direct extension, lymphatic, hematogenous, transcelomic).</p> <p>1.3.2 Demonstrate an understanding of relevant anatomy for common cancers (i.e. prostate, breast, lung and colorectal cancers) in terms of how they invade and metastasize, with an emphasis on invading adjacent structures, spread through the lymphatic and vascular systems.</p> <p>2 Public Health</p> <p>2.1. Epidemiology</p> <p>2.1.1. Demonstrate an understanding of basic cancer statistics in terms of incidence, prevalence,</p>				

<p>mortality and survival.</p> <p>2.1.2. Describe the incidence rate and mortality rates of the most common cancers diagnosed in Canada.</p> <p>2.1.3. List the most common childhood cancers</p> <p>2.2. Risk Factors</p> <p>2.2.1. Identify common environmental hazards that can cause cancer (i.e. chemical, biological, physical, radiation).</p> <p>2.2.2. Identify common diseases and biological characteristics that can predispose a person to developing cancer (e.g. infectious and inflammatory diseases, genetics/family history, obesity).</p> <p>2.2.3. Identify occupational and social risk factors for cancer (e.g. asbestos, smoking, alcohol).</p> <p>2.3 Prevention</p> <p>2.3.1. Distinguish between primary, secondary and tertiary prevention.</p> <p>2.3.2 Describe important lifestyle and behavioural modifications that can prevent cancer (e.g. dietary habits, ideal body weight, regular physical activity, sun exposure/sunscreen, alcohol abuse, sexual behavior, smoking cessation).</p> <p>2.4 Screening</p> <p>2.4.1. List the criteria for an effective population-level screening program.</p> <p>2.4.2 List cancers which are screened for in the periodic health exam and the specific investigations that are utilized (i.e. cervical, breast, colon, prostate).</p> <p>2.4.3. Demonstrate an understanding of the impact of cancer screening investigations on the patient</p> <p>3 Diagnosis</p> <p>3.1 Clinical Presentations of Cancer</p> <p>3.1.1 Describe non-specific physical symptoms and signs associated with common cancers (e.g. unexplained weight loss, pain, lymphadenopathy, palpable mass, bleeding, thrombosis, change in bowel habit and biliary tract obstruction).</p> <p>3.1.2. Describe common and characteristic cancer presentations/syndromes (e.g. iron deficiency anemia, cough, breast lump, hypercalcemia, painless jaundice, paraneoplastic syndromes, superior vena cava obstruction).</p> <p>3.1.3 Demonstrate an understanding of presentations of cancer that represent emergencies (e.g. superior vena cava obstruction, cardiac tamponade, spinal cord compression, pulmonary embolism, symptomatic brain metastases, cancer-related bleeding).</p> <p>3.2 Diagnostic Tests</p> <p>3.2.1. Describe and interpret appropriate lab tests, including hematology, chemistry and tumour markers, in a patient with a suspected diagnosis of cancer.</p> <p>3.2.2 Demonstrate an understanding of how serum tumour markers are used in the diagnosis and management of cancer.</p> <p>3.2.3 Describe diagnostic imaging studies used in the work-up of patients with suspected cancer and characteristic radiologic findings associated with cancer (e.g. pulmonary nodules, masses, pleural effusions on chest x-rays; lytic lesions, fractures on bone x-rays; nodules and masses on CT scans; masses on mammograms; PET-avid lesions on PET scan).</p> <p>3.2.4. Demonstrate an understanding that a diagnosis of cancer commonly involves a biopsy and/or surgical resection, and understand that there are exceptions where other tests can be used.</p> <p>3.2.5 Identify appropriate diagnostic and treatment referrals for patients with various common cancers</p> <p>3.3 Cancer Staging</p> <p>3.3.1. Demonstrate an understanding of the general principles and purpose of cancer staging.</p> <p>3.3.2. Identify basic principles of the TNM staging system with respect to common cancers (e.g. prostate, breast, lung, colorectal) and recognize that there are alternative staging systems for different tumour types.</p> <p>3.4 Performance Status Assessment</p> <p>3.4.1. Describe the components of commonly used performance status assessment tools such as the ECOG and Karnofsky performance status scales.</p> <p>4.Treatment</p> <p>4.1 General Principles of Cancer Treatment</p> <p>4.1.1 Demonstrate an understanding of the concepts of curative, neoadjuvant, adjuvant and palliative treatments.</p> <p>4.1.2 Demonstrate an understanding of the concepts of localized treatments versus systemic treatments.</p> <p>4.1.2 Identify factors that would affect the formulation of a treatment plan for a cancer patient (i.e. tumour, treatment and patient-related factors).</p> <p>4.2 Principles of Surgical Treatments for Cancer</p> <p>4.2.1 Demonstrate an understanding of the role of surgery in the treatment of cancer (i.e. surgery is</p>

	<p>usually reserved for patients with potentially curable localized cancer, but there are palliative indications for surgery as well).</p> <p>4.2.2 Demonstrate an understanding of common complications of cancer surgeries, such as bleeding, infection, and also impact on body image.</p> <p>4.2.3. Demonstrate an understanding of the rationale for using radiation and systemic therapy pre and post-operatively</p> <p>4.3 Principles of Radiation Treatments for Cancer</p> <p>4.3.1. Demonstrate an understanding of the general principles of how radiation is used to treat cancer and different types of radiation (e.g. external beam, brachytherapy, stereotactic radiation).</p> <p>4.3.2. Demonstrate an understanding of the difference between, and the clinical indications for, radiotherapy with curative and palliative intent.</p> <p>4.3.3 List the common acute, subacute, and late adverse effects of radiation.</p> <p>4.4 Principles of Systemic Treatments for Cancer</p> <p>4.4.1. Demonstrate an understanding of the general principles of chemotherapy in the treatment of cancer.</p> <p>4.4.2. List factors that would make a cancer patient a good candidate for chemotherapy.</p> <p>4.4.3. Know the general differences between traditional chemotherapy and targeted biological therapy</p> <p>4.4.4. List common acute and chronic toxicities of chemotherapy (e.g. alopecia, nausea, vomiting, neutropenia, mucositis, weight loss, neuropathy, secondary cancers), as well as potential life threatening toxicities (e.g. febrile neutropenia).</p> <p>5. Management of Cancer Complications and Treatment Complications</p> <p>5.1 . Demonstrate an understanding of how to diagnose and manage common complications of cancer (e.g. bone metastasis pain, hypercalcemia, pulmonary embolism, deep vein thrombosis).</p> <p>5.2. Demonstrate an understanding of how to diagnose and manage common complications of cancer treatment (e.g. febrile neutropenia, nausea, vomiting, diarrhea, hypertension, acute renal failure).</p> <p>5.3. Demonstrate an understanding of the emergency management of severe complications of cancer and its treatment (e.g. superior vena-cava syndrome, spinal cord compression, tumorlysis syndrome, symptomatic brain metastases, cancer-related bleeding).</p> <p>6. Knowledge Of Common Cancers</p> <p>6.1 Demonstrate an understanding of the epidemiology, risk factors, prevention, screening, presentation, diagnosis, staging, basics of treatment, prognosis and follow-up/survivorship care for common cancers including:</p> <ul style="list-style-type: none"> - Prostate cancer - Lung cancer - Breast cancer - Colorectal cancer - Skin cancers (Non-melanoma & melanoma) -Brain tumors <p>7. Survivorship Care And Follow Up</p> <p>7.1. Define survivorship in relation to cancer patients.</p> <p>7.2. Describe the appropriate investigations and follow-up plans for surveillance of patients who have had curative treatments for common cancers (i.e. prostate, breast, lung, colorectal).</p> <p>7.3. Demonstrate an understanding of the differences between locally recurrent and metastatic disease.</p> <p>8. Principles Of Palliative Care</p> <p>8.1. Demonstrate an understanding of the role of the palliative care physician/team in the care of cancer patients.</p>			
12.	Methods of learning: Lectures, practical exercises with a patients, seminars			
13.	Total amount of available time: 120 hours (30+30+0+30+30)			
14.	Distribution of available time: 2+1+1/week			
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours

		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)		30 hours	
16.	Other forms of activities	16.1	Projects		0 hours	
		16.2	Individual work		30 hours	
		16.3	Home learning		30 hours	
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)			up to 50 points	5 (five).	(F)
				51 to 60 points	6 (six)	(E)
				61 to 70 points	7 (seven)	(D)
				71 to 80 points	8 (eight)	(C)
				81 to 90 points	9 (nine)	(B)
				91 to 100 points	10 (ten)	(A)
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course		
20.	Language of teaching / study			English		
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation		
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Vincent T. DeVita	Principals and practice of oncology	Wolters Kuwer	2018
		2.				
		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.				
		2.				
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	ANESTHESIOLOGY				
2.	Code	3MF127212				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	X Semester – fifth year	7.	Number of ECTS	4	
8.	Professor (s)	Ass.Prof.Dr.Biljana Eftimova				
9.	Requirements for enrolling the course	None				
10.	Aims of the course Students are introduced to basic and modern methods in anesthesiology practice and the basic and advance principles and procedures of reanimation and resuscitation					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Theoretical study units: <ol style="list-style-type: none"> 1. Introduction . types of anesthesia 2. Drugs used in anesthesia and their influence on the organism 3. Anesthesiology examination and preparation for anesthesia 4. Perioperative monitoring and management of patients in anesthesia 5. Postanesthesiology recovery and complications 6. Regional anesthesia 7. Escort and local anesthesia 8. Resuscitation , basic life support 9. Resuscitation , advanced life support 10. Intensive treatment of comatose ill 					

	11. Intensive treatment of sick with respiratory failure 12. Intensive treatment of sick with electrolyte imbalance and shock <ul style="list-style-type: none"> • Practical teaching units 1. Anesthesiology Review - Classification by ASA 2. Anesthesia machine , components , method of operation 3. local anesthesia 4. Regional anesthesia – spinal, epidural anesthesia 5. Artificial ventilation and heart massage 6. Providing airway - AMBU , airway 7. Providing airway - endotracheal intubation , laryngeal masc 8. Defibrillation - indications and procedure 9. Application of drugs 10. Therapy with crystalloid and colloid in shock 11. transfusion therapy 12. tracheotomy 13. BLS,ALS					
12.	Methods of learning: Theory-Interactive teaching: lectures in large group discussions and engaging students. Multimedia presentation. E-learning. Individual consultations with students and consultation groups. Practical instruction:exercises in small groups in ICU and OR Final exam					
13	Total amount of available time: 4 ECTSx30 hours=120hours					
14	Distribution of available time: 30+15+15+30+15=120hours(2+1+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	30 hours		
		16.3	Home learning	30 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
No		Author	Title	Publisher	Year	
1.		P.Lalevic	Anestesiologija	Zavod za udzbenike, Beograd	1999	
2.	I.Vuckovic	Intenzivna terapija	Zavod za Udzbenike I dogledna sredstva Beograd	1998		
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Robert K. Stoelting Ronald D. Miller	Basics of anesthesia	. Churchill-Livingstone/ Elsavier	Fifth edition

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	OTORHINOLARYNGOLOGY AND MAXILLOFACIAL SURGERY			
2.	Code	3MF127312			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	XI Semester – fifth year	7.	Number of ECTS	4
8.	Professor (s)	Ass.Professor d-r. Vesna Petreska -Dukovska			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): Students to acquire basic knowledge in the field of otorhinolaryngology head and neck surgery				
11.	Contents of the course (per 15 weeks per semester): Theoretical teaching units 1. Introduction, basic terms in ORL. 2. Physiology of hearing and hearing aids. 3. Disorders of the vestibular apparatus. 4. Inborn Deafness. Presbycusis 5.Paralysis of n. facialis. 6. Ear infections. 7. Paranasal sinuses - symptomatology, diagnosis and treatment of diseases. 8. Benign and malignant diseases of the salivary glands. 9. Oral carcinoma and pharynx. 10. Diseases of the larynx and vocal cords. 11. Laryngeal carcinoma. 12. Upper airway injuries. Practical teaching units 1. Examination of a patient with hearing and balance disorders. 2. Audiometry. 3. Presentation of a case with Meniere's Syndrome. 4. Presentation of a case with middle ear infection. 5. Presentation of Inborn Deafness. 6. Examination of the patient with upper respiratory tract disease, oral cavity and the larynx. 7. Case presentation with chronic sinusitis. 8. Presentation of a case of salivary gland neoplasm. 9. Case presentation of benign polyps on vocal cords. 10. Laryngeal carcinoma case presentation. 11. Presentation of a patient with airway obstruction with a foreign body. 12. Presentation of a case of white paralysis.				
12.	Methods of learning: Interactive lecture, seminar work				
13.	Total amount of available time: 4ECTCx30 hours=120 hours				
14.	Distribution of available time: 30+15+15+15+45=120 hours				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30.... hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15..... hours	
16.	Other forms of activities	16.1	Projects	15..... hours	
		16.2	Individual work	15..... hours	
		16.3	Home learning	45..... hours	
17.	Method of assessment				
17.	17.1	Tests / Oral Exam		40 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)	

19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.				
		2.				
		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	M.Kosanoivik	Basic ENT	.	
		2.	R.Probst et al	Basic ENT	Thieme	2007
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	RADIOTHERAPY				
2.	Code	3MF110012				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	XI Semester – fifth year	7.	Number of ECTS	4	
8.	Professor (s)	Ass. Professor Deva Petrova				
9.	Requirements for enrolling the course	None				
10.	Radiation oncology requires a complex understanding of cancer biology, radiation physics, and clinical care. The aim of this program for medical student is to understand the fundamentals of radiation oncology, first with an introduction to cancer treatment and the use of radiation therapy. Considerations during radiation oncology consultations are discussed extensively with an emphasis on how to formulate an assessment and plan including which treatment modality to use. The treatment planning aspects of radiation oncology are then discussed with a brief introduction to how radiation works, followed by a detailed explanation of the nuances of simulation, including different imaging modalities, immobilization, and accounting for motion. The medical student is then instructed on how to participate in contouring, plan generation and evaluation, and the delivery of radiation on the machine. Lastly, potential adverse effects of radiation are discussed with a particular focus on the on-treatment patient.					
11.	1. radiation physics (introduction to how radiation works) 2. radiobiology 3. understanding of functioning of linear accelerator, cobal machine 2. detailed explanation of the nuances of simulation (including different imaging modalities, immobilization, and accounting for motion) 3. contouring, plan generation and evaluation 4. Introduction of different techniques for radiotherapy planing 4. potential adverse effects of radiation are discussed with a particular focus on the on-treatment patient					
12.	Methods of learning: Lectures, practical exercises with a patients, seminars					
13.	Total amount of available time: 120 hours (30+30+0+30+30)					
14.	Distribution of available time: 2+1+1 / week					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning			30 hours
15.2		Exercises (practical, laboratory, theoretical, seminars, team work)			30 hours	
16.	Other forms of activities	16.1	Projects			0 hours
16.2		Individual work			30 hours	
16.3		Home learning			30 hours	

17.	Method of assessment					
	17.1	Tests / Oral Exam	70 scores			
	17.2	Individual work (presentation, projects, practical)	10 scores			
	17.3	Activity and participation	20 scores			
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five)	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year		60% active participation at the course			
20.	Language of teaching / study		English			
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation			
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Vincent T. DeVita	Principals and practice of oncology	Wolters Kuwer	2018
2.						
		3.				
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.				
		2.				
		3.				

Annex No 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	OCCUPATIONAL HEALTH				
2.	Code	3MF121612				
3.	Study program	General medicine				
4.	Organizer of the Study program	University Goce Delcev Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	First				
6.	Academic year / semester	XI Semester – fifth year	7.	Number of ECTS credits	4	
8.	Professor (s)	Group of Professors: Ass Prof Andrej Petrov Prof d-r Biljana Ilievska Popovska Ass Prof d-r Ivica Smokovski				
9.	Requirements for enrolling the course	Requirement for attending the subject of Occupational Health is enrolment of 11 th semester.				
10.	Aims of the course (competencies): • Acquiring theoretical and practical knowledge from the area of Occupational Health					
11.	Contents of the course (per 15 weeks per semester): • Physiological and psychological aspects of occupation • Ergonomic principles of work place. Occupational risks • Analyses and health assessment of working environment and risk assessment • Ecological and biological monitoring. Readiness of workers for response in danger situations • Assessment of work ability. Health and security in work • Occupational diseases, diseases in work, injuries at work • Chemical factors of work environment – occupational toxicology • Physical factors of work environment – noise, non-ionizing radiation, ionizing radiation and vibrations • Occupational intoxications: gases, organic solvent, cadmium, manganese, chrome, nickel, beryllium • Occupational intoxications: led and compounds, mercury and compounds and pesticides • Occupational malignant diseases • Allergic alveolitis. Occupational dermatoses.					
12.	Methods of learning: interactive lectures, exercises, projects, individual work, home learning					
13.	Total amount of available time:	4 ECTS x 30 hours = 120 hours				
14.	Distribution of available time:	30+15+15+30+30 = 120 hours (2+1+1)				

15.	Forms of teaching / learning activities	15.1.	Lectures / theoretical, contact teaching, e-learning	30 hours
		15.2.	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours
16.	Other forms of activities	16.1.	Projects	15 hours
		16.2.	Individual work	30 hours
		16.3.	Home learning	30 hours
17.	Method of assessment			
	17.1.	Tests / Oral Exam		70 scores
	17.2.	Individual work (presentation, projects, practical)		10 scores
	17.3.	Activity and participation		20 scores
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five) (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)
19.	Signature approval and entrance to the final exam / or transition in the next year		60% active participation at the course	
20.	Language of teaching / study		English	
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey Self-evaluation	

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	PHYSICAL MEDICINE AND REHABILITATION			
2.	Code	3MF126612			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year / semester	XI Semester – fifth year	7.	Number of ECTS credits	4
8.	Professor	Assistant Professor Lence Nikolovska			
9.	Requirements for enrolling the course	None			
10.	<p>Aims of the course (competences):</p> <p>Theoretical teaching: To serve General Medicine students as a basic theoretical source for the means and methods of physical therapy and rehabilitation applied to specific diseases, their physiological and therapeutic activities, as well as specific methods of working with them.</p> <p>Practical teaching: During the practical work the students will apply their theoretical knowledge in practice in the Physical Medicine and Kinesiology cabinets, where they will be directly acquainted with all types of physical therapy, their physiological and therapeutic activities, as well as specific methods of working with them in specific diseases.</p>				
11.	<p>Contents of the course (per 15 weeks per semester):</p> <ol style="list-style-type: none"> 1. Basic principles of physiotherapy; 2. Rules for determining the physiotherapy program; 3. Physical therapy and rehabilitation in diseases of the central nervous system; 4. Physical therapy and rehabilitation in diseases of the peripheral nervous system; 5. Physical therapy and rehabilitation in degenerative diseases of LMA; 6. Physical therapy and rehabilitation of rheumatic diseases; 7. Physical therapy and rehabilitation of internal diseases; 8. Physical therapy and rehabilitation in orthopedic diseases; 9. Physical therapy and rehabilitation for injuries and fractures of the locomotor apparatus; 10. Physical Therapy and rehabilitation in surgery (Postoperative rehabilitation) 11. Physical therapy and rehabilitation in congenital anomalies and deformities; 12. Physical therapy and rehabilitation in gynecology and obstetrics; 13. Physical Therapy and rehabilitation in nervous and mental illnesses; <p>(methods, techniques, dosage)</p>				

12.	Methods of learning: Interactive teaching lectures and tutorials, self-study with teaching aids, practical exercises, workshops, group discussions and individual methods for solving tasks			
13.	Total amount of available time:		4 ECTS x 30=120 hours	
14.	Distribution of available time		30 +15+15+30+15 = 120 hours (2+1+1)	
15.	Forms of teaching / learning activities	15.1.	Lectures/ theoretical, contact teaching, e-learning	30 hours
		15.2.	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours
16.	Other forms of activities	16.1.	Projects	15 hours
		16.2.	Individual work	30 hours
		16.3.	Home learning	15 hours
17.	Method of assessment			
	17.1.	Tests / Oral Exam	70 scores	
	17.2.	Individual work (presentation, projects, practical)	10 scores	
	17.3.	Activity and participation	20 scores	
18.	Assessment Criteria (scores/points)	up to 50 points		5 (five) (F)
		51 to 60 points		6 (six) (E)
		61 to 70 points		7 (seven) (D)
		71 to 80 points		8 (eight) (C)
		81 to 90 points		9 (nine) (B)
		91 to 100 points		10 (ten) (A)
19.	Signature approval and entrance to the final exam / or transition in the next year		60% active participation at the course	
20.	Language of instruction		English	
21.	Methods of measuring / monitoring the quality of teaching		Standardized motor tests, observation, survey, Self-evaluation	

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of Course	OPHTHALMOLOGY			
2.	Code	3MF130512			
3.	Study program	General medicine			
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences			
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle			
6.	Academic year/ semester	XI Semester – fifth year	7.	Number of ECTS	4
8.	Professor (s)	Nevenka Laban Gucheva Vesna Cheleva			
9.	Requirements for enrolling the course	None			
10.	Aims of the course (competences): Getting acquainted with the eye diseases and their treatment				
11.	Contents of the course (per 15 weeks per semester): Courses: Disorders of the eye lids and orbit Disorders of the lacrimal drainage system and conjunctiva Disorders of the cornea and sclera Uveitis Tumors of the eye Glaucoma Disorders of the lens Retinal vascular disorders and detachment Degeneration and dystrophies of the fundus Strabismus and refraction Neuro-ophthalmology Injuries of the eye Practice: Basic eye examination x2				

	Bio- microscopy of the anterior segment x2 Ophthalmoscopy x3 Refraction x2 Skijaskopy Orthoptics and pleoptics Urgent first aid					
12.	Methods of learning: lectures/theoretical, contact teaching, e-learning Excercises-practical, laboratory, theoretical, seminars, team work, projects, individual work, home learning					
13	Total amount of available time: 4 ECTS x 30=120					
14	Distribution of available time: 30+15+15+10+50=120					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning (15 weeks X 2 school class-hours)		30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work) 15 weeks' x 1 school class-hour)		15 hours	
16.	Other forms of activities	16.1	Projects		15 hours	
		16.2	Individual work		30 hours	
		16.3	Home learning		30 hours	
17.	Method of assessment					
	17.1	Tests / Oral Exam			70 scores	
	17.2	Individual work (presentation, projects, practical)			10 scores	
	17.3	Activity and participation			20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points		5 (five). (F)	
			51 to 60 points		6 (six) (E)	
			61 to 70 points		7 (seven) (D)	
			71 to 80 points		8 (eight) (C)	
			81 to 90 points		9 (nine) (B)	
			91 to 100 points		10 (ten) (A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course		
20	Language of teaching / study			English		
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation		
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	O.Litrichin, M.Blagojevic, D Cvetkovic	Oftalmologija		2004
		2.	M.Blagojevic, O.Litrichin	Oftalmologija		1993
		3.	Sintija Bredford	Basic ophthalmology	Tabernakul	2010
	22.2	Additional literature				
		No	Author	Title	Publisher	Year
		1.	Kanski	Clinical Ophthalmology	Butterworth-Heimann.	2015
		2.	N.Carlson, D.Kurtz	Clinical Procedures for Ocular Examination	Tabernakul	2010
		3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	FORENSIC MEDICINE				
2.	Code	3MF117212				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	XI Semester – fifth year	7.	Number of ECTS	4	

8.	Professor (s)	Ass. Prof Natasha Davcheva				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): Introduction into the basic principles and topics of forensic medicine science.					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Forensic pathology: forensic autopsy, signs of death, thanatology, cause of death and the processes of decomposition. ▪ Injuries: mechanical, fiscal, chemical, psychical etc. ▪ Asphyxiation injuries: strangulation, bolus death, hanging etc. ▪ Firearm injuries: characteristic of the entrance and exit wounds, gun shot powder detection, vicinity of shooting. ▪ Head injuries. Closed head injuries, intracranial hemorrhages, contusion of the brain, diffuse brain injuries. Concussion of the brain. ▪ Clinical forensic medicine: body injuries; qualification of bodily injuries; rape cases and other types of sexual violence. Evaluation of medical documentation. ▪ Intoxication: with psychoactive substances, drags, ethyl alcohol, pesticides, CO etc. ▪ Identification: of alive or death person; of remains of humans body; of bones; DNA fingerprint method in forensic medicine practice. ▪ Forensic medicine criminalistics: crime scène investigation, methods for biological traces. 					
12.	Methods of learning: lectures/theoretical, contact teaching, e-learning Excercises-practical, laboratory, theoretical, seminars, team work, projects, individual work, home learning					
13.	Total amount of available time: 4x30=120 hours (2+1+1)					
14.	Distribution of available time: 30+15+15+30+15=120 hours (2+1+1)					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours		
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours		
16.	Other forms of activities	16.1	Projects	15 hours		
		16.2	Individual work	30 hours		
		16.3	Home learning	30 hours		
17.	Method of assessment					
	17.1	Tests / Oral Exam		70 scores		
	17.2	Individual work (presentation, projects, practical)		10 scores		
	17.3	Activity and participation		20 scores		
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)	
			51 to 60 points	6 (six)	(E)	
			61 to 70 points	7 (seven)	(D)	
			71 to 80 points	8 (eight)	(C)	
			81 to 90 points	9 (nine)	(B)	
		91 to 100 points	10 (ten)	(A)		
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course		
20.	Language of teaching / study			English		
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation		
22.	Literature					
	22.1	Basic literature				
		No	Author	Title	Publisher	Year
		1.	Pekka Saukko, Bernard Knight	Knight's Forensic pathology Fourth Edition	CRC Press Boca Raton London New York	2016
		2.	Natasha Davcheva	Практикум по судска медицина – Practical guide for forensic medicine – translation on English	UGD Shtip	2019
	3.	Vincent J. DiMaio Dominick DiMaio	Forensic pathology	CRC Press	2002	
	22.2	Additional literature				
		No	Author	Title	Publisher	Year

	1.	Zecevic D.	Sudska medicina	Medicinska naklada Zagreb	
	2.	Milos Tasic I saradnici	Sudska medicina	Zmaj Novi Sad	
	3.				

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	SPORTS MEDICINE				
2.	Code	3MF100612				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delcev University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	XI Semester – fifth year	7.	Number of ECTS	2	
8.	Professor (s)	Ass prof Eli Handjiska				
9.	Requirements for enrolling the course	None				
10.	Aims of the course (competences): Introducing the fields and disciplines that are expertise of sports medicine and acquisition of basic knowledge					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Basic principles of exercise physiology and conditioning ▪ Nutrition in sport – basic principles ▪ Using the supplements in sport - basic principles ▪ Doping in sport ▪ Application of sports medicine in regulation of body composition ▪ Dosing and evaluation of training process through monitoring of heart rate ▪ Laboratory and field tests in sport ▪ Preparticipation examinations ▪ Sports injuries ▪ Adequate training process – main prevention of sports injuries ▪ Application of isokinetic in sports medicine ▪ The role of team physician in improving the sport performance and preventing the athlete health ▪ Prescription for health – European concept of using the exercise in prevention and managing of illnesses 					
12.	Methods of learning: lectures, consultations, single-handed learning, participating in handwork of theme,					
13.	Total amount of available time: 2 ECTS x30 hours = 60 hours					
14.	Distribution of available time: 30 + 0 + 15 + 5 + 10 = 60 hours					
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning (15 weeks x 2 hours)			30 hours
		15.2	Exercises			0 hours
16.	Other forms of activities	16.1	Projects			15 hours
		16.2	Individual work			5 hours
		16.3	Home learning			10 hours
17.	Method of assessment					
	17.1	Tests (2 colloquies x 20 scores)			40 scores	
	17.2	Individual work (presentation, projects, practical)			10 scores	
	17.3	Activity and participation			20 scores	
	17.4	Final exam (theoretical and practical)			30 scores	
18.	Assessment Criteria (scores/ points)			up to 50 points	5 (five).	(F)
				51 to 60 points	6 (six)	(E)
				61 to 70 points	7 (seven)	(D)
				71 to 80 points	8 (eight)	(C)
				81 to 90 points	9 (nine)	(B)
			91 to 100 points	10 (ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course		
20.	Language of teaching / study			English		
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation		
22.	Literature					
	22.1	Basic literature				
	No	Author	Title	Publisher	Year	

		1.	Brukner P., Khan K	Clinical Sports Medicine	McGrawHill Companies, Icn Australia	2012	
		2.	Walter Frontera, PA :	Clinical Sports Medicine: Medical Management and Rehabilitation	Saunders/Elsevier Philadelphia	2007	
		3.	Kolt.S.G., Mackler L.S.	Physical Therapies in Sports and Exercise,	Churrchill Livingston e Elsevier Philadelphia	2009	
	22.2	Additional literature					
		No	Author	Title	Publisher	Year	
		1.	International Federation of Sports Medicine (FIMS),	Team Physician Manual	Routledge Abingdon Oxon	2013	
		2.	Ehrman J.K., Bisich F.S. Keteyian S.J.	Clinical Exercise Physiology	Human Kinetics	2009	
		3.					

Annex 3		Program of the Course for Integrated First and Second cycle				
1.	Title of Course	EMERGENCY MEDICINE				
2.	Code	3MF115312				
3.	Study program	General medicine				
4.	Organizer of the Study program	Goce Delce University – Stip Faculty of Medical Sciences				
5.	Level (first, second or third cycle of studies)	Integrated First and Second cycle				
6.	Academic year/ semester	XI Semester – fifth year	7.	Number of ECTS	3	
8.	Professor (s)	Ass. Prof. Dr. Biljana Eftimova				
9.	Requirements for enrolling the course	None				
10.	Aims of the course :Students who have already studied this content in other courses, need to learn to deal with them in the practice of emergency aspect. We will emphasize the provision of vital functions through general resuscitative measures, and then providing specific therapy. In practical instruction through elaborate clinical scenarios student should learn the procedure for dealing with various emergency situations					
11.	Contents of the course (per 15 weeks per semester): <ul style="list-style-type: none"> ▪ Theoretical study units: <ol style="list-style-type: none"> 1. Definition of emergency in medicine. Basic principles of treatment . 2. Shock (hemorrhagic, traumatic, cardiac, septic, anaphylactic) 3 Emergencies in cardiology (acute heart failure , rhythm disorders , coronary syndrome , acute myocardial infarction) 4 Pulmology emergencies (acute respiratory failure, asthmatic status, pneumothorax,pulmonary embolism) 5 Emergencies in GIT (" upper " and " lower " digestive bleeding , mesenteric thrombosis , pancreatitis , acute liver failure) 6 Emergencies in nephrology (acute renal failure, uremic syndrome , renal colic , hypertensive crisis) 7 Emergencies in endocrinology (diabetic ketoacidosis , hypo and hyperglycaemic coma , thyrotoxic crisis) 8 Toxicology (poisoning by drugs , pesticides , corrosive substances , ideological poisons mushrooms . Basic principles of treatment and antidotes) 9 Emergency situations in neurology (cerebrovascular stroke , status epilepticus , miastenia crisis , headache) 10 Emergency situations in psychiatry (depression, psychomotor agitation , psychotic conditions , forced hospitalization) 11 Emergency conditions in gynecology and obstetricijata (bleeding in the first trimester of pregnancy , placenta previa, abruptio placentae, ruptura uteri , etc.) 12 Emergency situations in pediatrics (convulsive syndrome , acute dehydration , neonatal asphyxia , premature newborn care) 					

	<ul style="list-style-type: none"> Practical teaching units All emergency situations that we have on the ward and ICU				
12.	Methods of learning: Theory-Interactive teaching: lectures in large group discussions and engaging students. Multimedia presentation. E-learning. Individual consultations with students and consultation groups. Practical instruction: exercises in small groups in ICU Final exam				
13	Total amount of available time: 3 ECTSx30 hours=90hours				
14	Distribution of available time: 30+15+0+30+15=90 hours (2+1+1)				
15.	Forms of teaching / learning activities	15.1	Lectures / theoretical, contact teaching, e-learning	30 hours	
		15.2	Exercises (practical, laboratory, theoretical, seminars, team work)	15 hours	
16.	Other forms of activities	16.1	Projects	0 hours	
		16.2	Individual work	30 hours	
		16.3	Home learning	15 hours	
17.	Method of assessment				
	17.1	Tests / Oral Exam		2x20/30=70 scores	
	17.2	Individual work (presentation, projects, practical)		10 scores	
	17.3	Activity and participation		20 scores	
18.	Assessment Criteria (scores/ points)		up to 50 points	5 (five).	(F)
			51 to 60 points	6 (six)	(E)
			61 to 70 points	7 (seven)	(D)
			71 to 80 points	8 (eight)	(C)
			81 to 90 points	9 (nine)	(B)
		91 to 100 points	10 (ten)	(A)	
19.	Signature approval and entrance to the final exam/ or transition in the next year			60% active participation at the course	
20	Language of teaching / study			English	
21.	Methods of measuring / monitoring the quality of teaching			Standardized motor tests, observation, survey Self-evaluation	
22.	Literature				
	22.1	Basic literature			
No		Author	Title	Publisher	Year
1.		Marx J et al. Rosen's	Emergency Medicine	MOSBY, Elsevier	2011
2.					
3.					
22.2	Additional literature				
	No	Author	Title	Publisher	Year
	1.	Marx J et al. Rosen's	Emergency Medicine	MOSBY, Elsevier	2011
	2.				
3.					

Annex 3	Program of the Course for Integrated First and Second cycle				
1.	Title of the Course	GENERAL PRACTICE			
2.	Code	3MF127412			
3.	Study Program	General medicine			
4.	Organizer of the study program (unit or institute, Faculty, department)	University Goce Delcev Faculty of Medical Sciences			
5.	Cycle (first, second and third cycle)	Integrated study program – first and second cycle			
6.	Academic year / semester	XII Semester – sixth year	7.	Number of credits	8
8.	Professor (s)	Engaged professors/professionals/specialists from the teaching hospitals with university agreement of collaboration			
9.	Requirements for enrollment the Course	None			
10.	Purposes of the curriculum (competencies): Introducing students to all areas how to achieve essential or 'core' competences for general practitioner (GP). GP is a person-centred scientific discipline with three essential features of the core competences: contextual, attitudinal and scientific.				
11.	Content of the course program:				

<p>The content of the course contains 6 core competences of GP</p> <p>(1) Primary care management (2) Person-centred care (3) Specific problem solving skills (4) Comprehensive approach (5) Community orientation (6) Holistic modelling</p> <p>The course contains also 12 central characteristics of the discipline of GP</p> <ul style="list-style-type: none"> - first medical contact within the healthcare system, providing open and unlimited access to its users, dealing with all health problems regardless of the age, sex or any other characteristic of the person concerned. - makes efficient use of healthcare resources through co-ordinating care, working with other professionals in the primary care setting, and by managing the interface with other specialities taking an advocacy role for the patient when needed. - develops a person-centred approach, orientated to the individual, his/her family and their community. - promotes patient empowerment. - has a unique consultation process, which establishes a relationship over time, through effective communication between doctor and patient. - is responsible for the provision of longitudinal continuity of care as determined by the needs of the patient. - has a specific decision making process determined by the prevalence and incidence of illness in the community. - manages simultaneously both acute and chronic health problems of individual patients. - manages illness which presents in an undifferentiated way at an early stage in its development, which may require urgent intervention. - promotes health and well-being both by appropriate and effective intervention. - has a specific responsibility for the health of the - deals with health problems in their physical, psychological, social, cultural and existential dimensions. 				
12.	<p>Learning methods:</p> <ul style="list-style-type: none"> - lectures - contact teaching, - e-teaching, - theoretical and practical exercises, - assignments, - consultations, - preparation of independent seminar work, - home learning, - preparatory classes for exams, - consultations, - colloquia, - practical final exercise, - e-exams 			
13.	Total available time	8 hours / week 240 hours / semester		
14.	Distribution of available time	0+0+8 / per week		
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	0 hours/week
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	0 hours/week
16.	Други форми на активности	16.1.	Project tasks	0 hours
		16.2.	Individual tasks	8 hours
		16.3.	Home learning	0 hours
17.	Method of assessment			
	17.1.	Tests / oral exams		70 points
	17.2.	Seminars (paper / project - presentation: written and/or oral)		10 points
	17.3.	Activity and participation		20 points
18.	Assessment Criteria (points / score)	up 50 points		5 (five) (F)
		51 to 60 points		6 (six) (E)
		61 to 70 points		7 (seven) (D)

		71 to 80 points	8 (eight) (C)
		81 to 90 points	9 (nine) (B)
		91 to 100 points	10 (ten) (A)
19.	Signature requirement and passing the final exam	60% active participation at the course	
20.	Language of teaching / study	English	
21.	Method of monitoring the quality of teaching	Self-evaluation	

Annex 3		Program of the Course for Integrated First and Second cycle		
1.	Title of the Course	INTERNAL MEDICINE – CLINICAL PRACTICE		
2.	Code	3MF127512		
3.	Study Program	General medicine		
4.	Organizer of the study program (unit or institute, Faculty, department)	University Goce Delcev Faculty of Medical Sciences		
5.	Cycle (first, second and third cycle)	Integrated study program – first and second cycle		
6.	Academic year / semester	XII Semester – sixth year	7.	Number of credits 5
8.	Professor (s)	Engaged professors/professionals/specialists from the teaching hospitals with university agreement of collaboration		
9.	Requirements for enrollment the Course	None		
10.	Purposes of the curriculum (competencies): The purpose for the students is to provide practical instruction to apply correctly the knowledge of Internal Medicine gained through the regular courses related to the diagnosis, treatment and monitoring patients.			
11.	Content of the course program: Proper taking medical history and clinical examination of a patient Timely recognition of the relevant syndrome and evaluation of the patient's conditions To refer the patients correctly to appropriate diagnostic and laboratory procedures in order to correctly establish a different diagnosis Properly interpret laboratory and clinical trials To determine therapy or refer the patient to an appropriate therapeutic procedure To respect ethical and legal principles relevant to clinical practice To participate in a teamwork networking			
12.	Learning methods: – lectures - contact teaching, – e-teaching, – theoretical and practical exercises, – assignments, – consultations, – preparation of independent seminar work, – home learning, – preparatory classes for exams, – consultations, – colloquia, – practical final exercise, – e-exams			
13.	Total available time	8 hours / week 240 hours / semester		
14.	Distribution of available time	0+0+5 / per week		
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	0 hours/week
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	0 hours/week
16.	Други форми на активности	16.1.	Project tasks	0 hours
		16.2.	Individual tasks	5 hours
		16.3.	Home learning	0 hours
17.	Method of assessment			

	17.1.	Tests / oral exams	70 points	
	17.2.	Seminars (paper / project - presentation: written and/or oral)	10 points	
	17.3.	Activity and participation	20 points	
18.	Assessment Criteria (points / score)		up 50 points	5 (five) (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)
19.	Signature requirement and passing the final exam	60% active participation at the course		
20.	Language of teaching / study	English		
21.	Method of monitoring the quality of teaching	Self-evaluation		

Annex 3		Program of the Course for Integrated First and Second cycle		
1.	Title of the Course	SURGERY – CLINICAL PRACTICE		
2.	Code	3MF127612		
3.	Study Program	General medicine		
4.	Organizer of the study program (unit or institute, Faculty, department)	University Goce Delcev Faculty of Medical Sciences		
5.	Cycle (first, second and third cycle)	Integrated study program – first and second cycle		
6.	Academic year / semester	XII Semester – sixth year	7.	Number of credits 5
8.	Professor (s)	Engaged professors/professionals/specialists from the teaching hospitals with university agreement of collaboration		
9.	Requirements for enrollment the Course	None		
10.	Purposes of the curriculum (competencies): The aim of active clinical practice instruction in surgical wards and outpatient surgery is to enable future medical doctors to rationally and systematically apply the knowledge gained during their studies in order to timely diagnose the diseases, clinical syndromes and conditions, correct therapeutic approach and professional ethical attitude towards patients, colleagues and collaborators. After completing professional clinical practice, future medical doctors will be trained for following knowledge, skills and attitude: <ul style="list-style-type: none"> - Correct history taking and clinical examination of a patient - Identification and early detection of diseases, clinical syndromes and conditions of patients with an emphasis on urgent life-threatening situation - Implementation and /or directing patients to certain appropriate diagnostic procedures (laboratory or clinical) for a correct interpretation of their results and establishing different diagnosis - Determining therapy and / or referring to appropriate therapeutic procedure or to another more appropriate level or health care - Providing assistance in emergency situations and in the terminal stage of a disease - Treatment of chronically ill patients - Responsible approach to work in accordance with the medical doctrine - Respect of ethical and legal principles relevant to medical practice - Participation in a medical team, which is imperative in modern medical practice 			
11.	Content of the course program: <ol style="list-style-type: none"> 1. Admission clinic Individual taking history (surgical history). Physical examination of systems, using basic methods (inspection, palpation, auscultation and percussion) and their systematic and rational use depending on the case. 2. Surgical ward Students become familiar with the surgical ward, manner of behavior and basic methods for aseptic operation in a hospital room. Keeping records of a surgical patient and presenting these to other colleagues and participating in a daily visit. 3. Surgical hall Students become familiar with the principles of entry, behaviour and aseptic work in the surgery. They will learn the basic position of a doctor (assistant) who participates in a surgical procedure. Active participation in surgical procedures and getting knowledge of basic surgical principles of work. Methods of clinical practice: Practical exercises on various surgical phantoms, simulation, work with patients under supervision.			

12.	Learning methods:			
	<ul style="list-style-type: none"> – lectures - contact teaching, – e-teaching, – theoretical and practical exercises, – assignments, – consultations, – preparation of independent seminar work, – home learning, – preparatory classes for exams, – consultations, – colloquia, – practical final exercise, – e-exams 			
13.	Total available time	8 hours / week 240 hours / semester		
14.	Distribution of available time	0+0+8 / per week		
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	0 hours/week
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	0 hours/week
16.	Други форми на активности	16.1.	Project tasks	0 hours
		16.2.	Individual tasks	8 hours
		16.3.	Home learning	0 hours
17.	Method of assessment			
	17.1.	Tests / oral exams	70 points	
	17.2.	Seminars (paper / project - presentation: written and/or oral)	10 points	
	17.3.	Activity and participation	20 points	
18.	Assessment Criteria (points / score)	up 50 points		5 (five) (F)
		51 to 60 points		6 (six) (E)
		61 to 70 points		7 (seven) (D)
		71 to 80 points		8 (eight) (C)
		81 to 90 points		9 (nine) (B)
		91 to 100 points		10 (ten) (A)
19.	Signature requirement and passing the final exam	60% active participation at the course		
20.	Language of teaching / study	English		
21.	Method of monitoring the quality of teaching	Self-evaluation		

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of the Course	GYNECOLOGY AND OBSTETRICS - CLINICAL PRACTICE			
2.	Code	3MF127712			
3.	Study Program	General medicine			
4.	Organizer of the study program (unit or institute, Faculty, department)	University Goce Delcev Faculty of Medical Sciences			
5.	Cycle (first, second and third cycle)	Integrated study program – first and second cycle			
6.	Academic year / semester	XII Semester – sixth year	7.	Number of credits	4
8.	Professor (s)	Engaged professors/professionals/specialists from the teaching hospitals with university agreement of collaboration			
9.	Requirements for enrollment the Course	None			
10.	Purposes of the curriculum (competencies): Purpose of the active clinical practice instruction in gynecology wards and clinics is to enable future medical doctors to rationally and systematically apply the knowledge gained during their studies in order to timely diagnose the diseases, clinical syndromes and conditions, correct therapeutic approach and professional ethical attitude towards patients, colleagues and collaborators.				

	After completing professional clinical practice, future medical doctors will be trained for following knowledge, skills and attitude: <ul style="list-style-type: none"> - Correct history taking and clinical examination of a patient - Identification and early detection of diseases, clinical syndromes and conditions of patients with an emphasis on urgent life-threatening situation - Implementation and /or directing patients to certain appropriate diagnostic procedures (laboratory or clinical) for a correct interpretation of their results and establishing different diagnosis - Determining therapy and / or referring to appropriate therapeutic procedure or to another more appropriate level of health care - Providing assistance in emergency situations and in the terminal stage of a disease - Treatment of chronically ill patients - Responsible approach to work in accordance with the medical doctrine - Respect of ethical and legal principles relevant to medical practice - Participation in a medical team, which is imperative in modern medical practice 			
11.	Content of the course program: Proper taking medical history and clinical examination of a patient Timely recognition of the relevant syndrome and evaluation of the condition of a patient To refer the patient correctly to appropriate diagnostic and laboratory procedures in order to correctly establish a different diagnosis Properly interpret laboratory and clinical results Determine therapy or refer the patient to an appropriate therapeutic procedure To respect ethical and legal principles relevant to clinical practice To engage student in a teamwork			
12.	Learning methods: <ul style="list-style-type: none"> - lectures - contact teaching, - e-teaching, - theoretical and practical exercises, - assignments, - consultations, - preparation of independent seminar work, - home learning, - preparatory classes for exams, - consultations, - colloquia, - practical final exercise, - e-exams 			
13.	Total available time	4 hours / week 120 hours / semester		
14.	Distribution of available time	0+0+4 / per week		
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	0 hours/week
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	0 hours/week
16.	Други форми на активности	16.1.	Project tasks	0 hours
		16.2.	Individual tasks	4 hours
		16.3.	Home learning	0 hours
17.	Method of assessment			
	17.1.	Tests / oral exams		70 points
	17.2.	Seminars (paper / project - presentation: written and/or oral)		10 points
	17.3.	Activity and participation		20 points
18.	Assessment Criteria (points / score)	up 50 points		5 (five) (F)
		51 to 60 points		6 (six) (E)
		61 to 70 points		7 (seven) (D)
		71 to 80 points		8 (eight) (C)
		81 to 90 points		9 (nine) (B)
		91 to 100 points		10 (ten) (A)
19.	Signature requirement and passing the final exam	60% active participation at the course		
20.	Language of teaching / study	English		
21.	Method of monitoring the quality of teaching	Self-evaluation		

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of the Course	PEDIATRICS – CLINICAL PRACTICE			
2.	Code	3MF127812			
3.	Study Program	General medicine			
4.	Organizer of the study program (unit or institute, Faculty, department)	University Goce Delcev Faculty of Medical Sciences			
5.	Cycle (first, second and third cycle)	Integrated study program – first and second cycle			
6.	Academic year / semester	XII Semester – sixth year	7.	Number of credits	4
8.	Professor (s)	Engaged professors/professionals/specialists from the teaching hospitals with university agreement of collaboration			
9.	Requirements for enrollment the Course	None			
10.	Purposes of the curriculum (competencies): To correctly implement the knowledge acquired during their regular studies in diagnosis, therapy and monitoring of pediatric patients at different ages.				
11.	Content of the course program: Proper taking of medical history and clinical examination of a patient Timely recognition of the relevant syndrome and evaluation of the patient condition To refer the patient correctly to appropriate diagnostic and laboratory procedures in order to correctly establish a different diagnosis Properly interpret laboratory and clinical results To determine therapy or refer the patient to an appropriate therapeutic procedure To respect ethical and legal principles relevant to clinical practice To engage student in a teamwork				
12.	Learning methods: <ul style="list-style-type: none"> – lectures - contact teaching, – e-teaching, – theoretical and practical exercises, – assignments, – consultations, – preparation of independent seminar work, – home learning, – preparatory classes for exams, – consultations, – colloquia, – practical final exercise, – e-exams 				
13.	Total available time	4 hours / week 1200 hours / semester			
14.	Distribution of available time	0+0+4 / per week			
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	0 hours/week	
		15.2.	theoretical and practical exercises, e-exams, preparation of independent seminar work	0 hours/week	
16.	Други форми на активности	16.1.	Project tasks	0 hours	
		16.2.	Individual tasks	4 hours	
		16.3.	Home learning	10 hours	
17.	Method of assessment				
	17.1.	Tests / oral exams	70 points		
	17.2.	Seminars (paper / project - presentation: written and/or oral)	10 points		
	17.3.	Activity and participation	20 points		
18.	Assessment Criteria (points / score)	up 50 points		5	(five) (F)
		51 to 60 points		6	(six) (E)
		61 to 70 points		7	(seven) (D)
		71 to 80 points		8	(eight) (C)

		81 to 90 points	9 (nine) (B)
		91 to 100 points	10 (ten) (A)
19.	Signature requirement and passing the final exam	60% active participation at the course	
20.	Language of teaching / study	English	
21.	Method of monitoring the quality of teaching	Self-evaluation	

Annex 3		Program of the Course for Integrated First and Second cycle			
1.	Title of the Course	ELECTIVE CLINICAL COURSE			
2.	Code	3MF127912			
3.	Study Program	General medicine			
4.	Organizer of the study program (unit or institute, Faculty, department)	University Goce Delcev Faculty of Medical Sciences			
5.	Cycle (first, second and third cycle)	Integrated study program – first and second cycle			
6.	Academic year / semester	XII Semester – sixth year	7.	Number of credits	4
8.	Professor (s)	Engaged professors/professionals/specialists from the teaching hospitals with university agreement of collaboration			
9.	Requirements for enrollment the Course	None			
10.	Purposes of the curriculum (competencies): The aim of active clinical practice instruction in elective clinics by individual affinity of the students is to enable future medical doctors to rationally and systematically apply the knowledge gained during their studies in order to timely diagnose the diseases, clinical syndromes and conditions, correct therapeutic approach and professional ethical attitude towards patients, colleagues and collaborators. After completing professional clinical practice, future medical doctors will be trained for following knowledge, skills and attitude: <ul style="list-style-type: none"> - Correct history taking and clinical examination of a patient - Identification and early detection of diseases, clinical syndromes and conditions of patients with an emphasis on urgent life-threatening situation - Implementation and /or directing patients to certain appropriate diagnostic procedures (laboratory or clinical) for a correct interpretation of their results and establishing different diagnosis or to another more appropriate level or health care - Providing assistance in emergency situations and in the terminal stage of a disease - Treatment of chronically ill patients - Responsible approach to work in accordance with the medical doctrine - Respect of ethical and legal principles relevant to medical practice - Participation in a medical team, which is imperative in modern medical practice Determining therapy and / or referring to appropriate therapeutic procedure				
11.	Content of the course program: Practical exercises in a elected clinical discipline, simulation of the problems that occur patients, used suitable diagnostic procedures, give the opinion about the therapy and treatment and work with patients under supervision.				
12.	Learning methods: <ul style="list-style-type: none"> - lectures - contact teaching, - e-teaching, - theoretical and practical exercises, - assignments, - consultations, - preparation of independent seminar work, - home learning, - preparatory classes for exams, - consultations, - colloquia, - practical final exercise, - e-exams 				
13.	Total available time	4 hours / week 120 hours / semester			
14.	Distribution of available time	0+0+4 / per week			
15.	Forms of teaching / learning activities	15.1.	lectures / theoretical - contact teaching, e-teaching	0 hours/week	
		15.2.	theoretical and practical exercises,	0 hours/week	

			e-exams, preparation of independent seminar work	
16.	Други форми на активности	16.1.	Project tasks	0 hours
		16.2.	Individual tasks	4 hours
		16.3.	Home learning	0 hours
17.	Method of assessment			
	17.1.	Tests / oral exams		70 points
	17.2.	Seminars (paper / project - presentation: written and/or oral)		10 points
	17.3.	Activity and participation		20 points
18.	Assessment Criteria (points / score)		up 50 points	5 (five) (F)
			51 to 60 points	6 (six) (E)
			61 to 70 points	7 (seven) (D)
			71 to 80 points	8 (eight) (C)
			81 to 90 points	9 (nine) (B)
			91 to 100 points	10 (ten) (A)
19.	Signature requirement and passing the final exam		60% active participation at the course	
20.	Language of teaching / study		English	
21.	Method of monitoring the quality of teaching		Self-evaluation	