Study plan

Name of study plan: Systematic Integration of Processes in Healthcare - full-time

Faculty/Institute/Others: Department: Branch of study guaranteed by the department: Welcome page Garantor of the study branch: Program of study: Systematic Integration of Processes in Healthcare Type of study: Follow-up master full-time Required credits: 120 Elective courses credits: 0 Sum of credits in the plan: 120 Note on the plan:

Name of the block: Compulsory courses Minimal number of credits of the block: 105 The role of the block: Z

Code of the group: F7PMS POV 19 Name of the group: Systematic Integration of Processes in Healthcare compulsory course Requirement credits in the group: In this group you have to gain 105 credits Requirement courses in the group: In this group you have to complete 29 courses Credits in the group: 105 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
17BOZP	Occupational Safety and Health, Fire Protection and First Aid Petr Kudrna Petr Kudrna Petr Kudrna (Gar.)	Z	0	1P	Z	Z
F7PMSBSCD	Statistical Methods in the Analysis of Clinical Studies Marian Rybá, Aleš Tichopád, Martina Homolková Vojt ch Kamenský Aleš Tichopád (Gar.)	Z,ZK	4	2P+2S	z	Z
F7PMSBE	Business English Jitka Mari áková	KZ	2	2S	L	Z
F7PMSEMM	Economic-mathematical Methods David Vrba, Matouš Brunát David Vrba David Vrba (Gar.)	KZ	2	1P+1S	Z	Z
F7PMSEK	Economics Petra Hospodková, Martina Caithamlová, Lucie Severová Petra Hospodková Lucie Severová (Gar.)	Z,ZK	5	2P+2S	Z	Z
F7PMSEZZ	Economy of Healthcare Facilities Petra Hospodková	Z,ZK	3	2P+2S	L	Z
F7PMSHZT	Health Technology Assessment	Z,ZK	4	2P+2S	L	Z
F7PMSIP	Individual Training Petra Hospodková Petra Hospodková	Z	2	2XT	Z	Z
F7PMSIZZ	Information Sources in Healthcare Gleb Donin, Vojt ch Kamenský Vojt ch Kamenský Gleb Donin (Gar.)	KZ	3	1P+2S	Z	Z
F7PMSIZS	Integrated Rescue System and the Disaster Medicine Ond ej Šedivka, Jarmila Rážová, Renata Havránková, Leoš Navrátil, Zden k Hon, Lukáš Miklas, Kate ina Dostálová, Adéla Hofmannová, Zden k Hanuška, Leoš Navrátil Leoš Navrátil (Gar.)	ZK	5	2P	L	Z
F7PMSLKH	Legislation in Healthcare and Clinical Evaluation Vojt ch Kamenský, Peter Kneppo, Ond ej Gajdoš Vojt ch Kamenský Peter Kneppo (Gar.)	Z,ZK	5	2P+2S	z	Z
F7PMSMZT	Health Technology Management Martin Rožánek, Ji í Petrá ek, Martin Mayer, Kristýna Koldová Ji í Petrá ek Martin Rožánek (Gar.)	KZ	5	2P+2S	L	Z
F7PMSMZZ	Management of Medical Facilities Petra Hospodková, Martina Caithamlová, Ján Lešták Petra Hospodková Ján Lešták (Gar.)	Z,ZK	4	2P+2S	Z	Z
F7PMSNIS	Hospital Information Systems Jan Bruthans, Anna Hor áková, David Jirsa Anna Hor áková Jan Bruthans (Gar.)	Z,ZK	3	2P+1S	Z	Z

F7PMSOP	Professional Training Petra Hospodková Jan Bíza (Gar.)	Z	2	4XT	L	Z
F7PMSPLPT	Overview of Medical Devices	Z,ZK	4	2P+2C	L	Z
F7PMSPMF	Overview of Mathematics and Physics David Vrba	Z,ZK	4	2P+2S	Z	Z
F7PMSRP	Annual Project Gleb Donin Gleb Donin Gleb Donin (Gar.)	Z	2	1S	L	Z
F7PMSRKZ	Quality Management in Healthcare Vojt ch Kamenský, Peter Kneppo, Alena Plášková Vojt ch Kamenský Peter Kneppo (Gar.)	Z,ZK	5	2P+2S	L	Z
F7PMSRLZ	Management of Human Resources Petra Hospodková	Z,ZK	3	1P+1S	Z	Z
F7PMSRNZ	Management of Costs in Healthcare Martina Caithamlová	KZ	5	2P+2S	Z	Z
F7PMSSDP1	Diploma Thesis Seminar I. Gleb Donin, Ond ej Gajdoš, Vladimír Rogalewicz Vladimír Rogalewicz Vladimír Rogalewicz (Gar.)	Z	2	1S	Z	z
F7PMSSDP2	Diploma Thesis Seminar II. Gleb Donin Gleb Donin (Gar.)	Z	2	1S	L	Z
F7PMSVZ1	Public Health, Management of Medical Facilities Jan B iza	ZK	5	2P	Z	Z
F7PMSVZ2	Public Healthcare II. Jan B íza	Z,ZK	4	2P	L	Z
F7PMSVKZP	Selected Chapters from Medical Processes	KZ	5	2P+2S	Z	Z
F7PMSZSED	Medical Systems and their Economic Dimension Miroslav Barták	Z,ZK	4	2P+2S	L	Z
F7PMSZSVS	Healthcare as Part of the Public Sector Miroslav Barták Miroslav Barták Miroslav Barták (Gar.)	ZK	3	2P	Z	Z
F7PMSDP	Diploma Thesis	Z	8	4XT	L	Z

Characteristics of the courses of this group of Study Plan: Code=F7PMS POV 19 Name=Systematic Integration of Processes in Healthcare compulsory course

17BOZP	Occupational Safety and Health, Fire Protection and First Aid	Z	0
F7PMSBSCD	Statistical Methods in the Analysis of Clinical Studies	Z,ZK	4
	, methods of statistical analysis designed primarily for medical research and clinical evaluation of medical devices. Students wi	1 '	clinical research
	study design and then to commonly used methods of processing and testing clinical data.		
F7PMSBE	Business English	KZ	2
The aim of this study	naterial is to make students familiar with the Business English before embarking on a career in business. The course covers n	ot only terminolog	y connected with
the field of business E	nglish, but also grammar most often used in the given context. The material depicts a wide range of business topics including	Jobs, Organisatio	ons, Marketing,
Finance, Accounting e	etc. It presents and explains new words in the context of real situations and shows the student how to use them and how to wo	rk out the rules for	using them. The
students practise thei	newly acquired knowledge in the exercises related. The material is also designed to help the students to orientate in busines	s environment of c	different cultures
as well as to improve	heir speaking skills, using open questions for the students to discuss and talk about. Thus it allows the student to express their	ideas, support or o	question different
opinions and get prep	ared for real business sphere.		
F7PMSEMM	Economic-mathematical Methods	KZ	2
The course Mathemat	ical Methods in Economics combines both theoretical knowledge and practical skills. Theoretical knowledge is necessary to fo	rmulate a mathem	atical model and
subsequently to solve	decision problems and optimal management of economic processes. Practical knowledge is trained in solving specific situation	ons on examples,	where students
are introduced to spec	ific methods and techniques of economic and mathematical data analysis.		
F7PMSEK	Economics	Z,ZK	5
The course introduces	s the main rules and notions of microeconomics, the market theory, market environment, market balance, demand and supply.	Furthermore, the	course covers
the topic of demand a	nd supply elasticity - graphiical and mathematical expression of elasticity, consumer's behavious, his optimum. The lecture co	ontinues with the th	eory of the firm,
including costs and pr	oduction, profit maximization, etc. The end of the microeconomics part introduces the theory of perfect/imperfect competition	(monopoly, oligopo	olv. monopolistic
• .	oduction, profit maximization, etc. The end of the microeconomics part introduces the theory of perfect/imperfect competition		
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F7PMSIZS Integrated Rescue System and the Disaster Medicine	ZK	5
The aim of the course is to acquaint the students with the origin and development of the Integrated Rescue System (IRS) in the Czech Republic, its	I I	d main tasks of
the basic and other IRS bodies in the preparedness and solution of emergency and crisis situations, with the principles of tactical, operational and stra	ategic managemer	nt of IRS bodies,
with the role of the public authorities in handling emergency situations and within the population protection. The course furthermore provides information	ation on current th	reats that can
negatively affect health care service in relation to the provision of medical care, on the field of crisis management, and above all on the preparednes	s of inpatient facili	ties to provide
care in emergency and crisis situations involving mass casualties, including the processes and procedures arising from trauma plans of outpatient a	nd inpatient faciliti	
F7PMSLKH Legislation in Healthcare and Clinical Evaluation	Z,ZK	5
Learning outcomes of the course unit The goal is to acquaint students with the rights and obligations arising from current legislation on health care is	-	
memorizing the literal wording of the legislation, but on familiarizing students with the main points and ideas contained in EU directives, regulations,	laws, standards ar	nd EU directives
in healthcare. The student should have a comprehensive overview of health legislation after completing the course.		
F7PMSMZT Health Technology Management	KZ	5
Infrastructure of hospital and its architecture. Distributions of stuff (engineering distributions electro-circuits, specifics of the circuits, water, gas distributions electro-circuits, specifics electro-circuits, gas distributions electro-circuits, specifics electro-circuits, gas distributions electro-circuits,	-	-
drives, compensation, spaces in health care specifics of elementary spaces, steam distribution). Practical seminars from design of the project. Typical Ministry of health CR specifying all requirements for different departments and devices. Barrier-free construction of health institutions.	al Czech norms ar	id standards
F7PMSMZZ Management of Medical Facilities	Z,ZK	4
The aim of the course is to introduce the basic categories in management such as organizing, decision making, influencing or human resources. The intr	I ' I	
is a part of the course. The accent is put on the differences of the health facilities in comparison with the classical company. The aim of seminars is to		-
so case studies and team activities form the content of seminars.		
F7PMSNIS Hospital Information Systems	Z,ZK	3
The subject addresses all subsystems of Hospital information systems (HIS) which means information systems of individual health facilities. This info	I ' I	-
Czech eHealth systems. Not only single components (including examples from practice) are addressed, but also adjacent topics are accented (eHea	-	
and perspectives, classification systems, technical standards, security of information systems, basic knowledge of database and intranet systems).	-	-
F7PMSOP Professional Training	Z	2
Individual practical training completes the practical part of education in the study program Systematic Integration of Processes in Health Care. Students	get acquinted with	an organization
of operations and with basic documentation in a healthcare facility, and train to do selected activities themselves in a practical setting.		
F7PMSPLPT Overview of Medical Devices	Z,ZK	4
The course is focused on medical devices and equipment and medical imaging systems. The aim of the course is to present to students basic princi	ples of typical med	dical devices. A
content of the course is prepared so that student can understand topics with medical devices within the further courses. The course covers diagnostic a	nd therapeutic me	dical technology
together with imaging modalities. The student will know basic technical parameters of typical medical devices used commonly in the clinical practice.		e e
of the medical equipments, devices for measurement of blood pressure, measurement of bioelectric heart activity (ECG) - electrocardiograph, monit	-	
bioelectrical activity of the brain (EEG) electroencephalograph, measurement of bioelectric activity of the muscles (EMG) electromyograph, electrosurgi		
defibrillators, equipment of anesthesia care units, lung ventilators and basic concepts of imaging systems, X-ray, CT, SPECT, PET a US systems. Th in radiotherapy is also a part of the course.	ie overview of the	methoas usea
F7PMSPMF Overview of Mathematics and Physics	Z,ZK	4
Students will acquire basic knowledge of linear algebra (vectors, matrices, systems of linear equations), and differential and integral calculus of the f	· · ·	
continuity, derivation, function path, integrals). They will be able to solve systems of linear equations and apply linear algebra and differential method		
examples. In the teaching of physics, emphasis is placed on the context of individual physical disciplines and the application of mathematics. Through	-	-
students will acquire basic knowledge of physics with a focus on medical practice. Upon completion of the course students will be ready to study oth		
F7PMSRP Annual Project	Z	2
The course is designed to prepare students for the final work of Faculty of Biomedical Engineering, CTU, which will demonstrate the student's own a	analytical and crea	tive abilities as
well as his / her knowledge from the previous stages of study. Subject "Annual project represents the first stage of the diploma thesis. The main goal	is based on the e	laborated and
approved current state of the issue of generating a suitable topic of the diploma thesis, description of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planned methods, explanation of the goals, overview of the planation of the goals, overview of the goals	pected benefit and	I rationale of the
topic selection. At the end of the second semester, the selected entry is entered into the approval process of the department, subject to the following		-
the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, managed and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines) and the study program Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines) and the study processes in Healthcare concept (ie focusing on at least 2 of the thre		,
scope of planned scientific work to meet the parameters for DP (especially in terms of planned methods and benefits) The topics are prepareed by the science of the science		
listed in the "PROJECTS" system, and during the semester they are specified. To ensure the aforementioned conditions, the student cooperates with	-	
and actively participates in the adaptation. Pursuant to Act 111/1998 Coll. the student has the opportunity to design a topic for which the above condit of yearly projects become the starting point for the second seminar, ie the Diploma Thesis Seminar 1, where the student elaborates further parts of the		•
		. 5
F7PMSRKZ Quality Management in Healthcare Within the subject of Quality Management in Health care the student acquaints himself with basic concepts such as: product, its characteristics and	Z,ZK	
requirement, customer satisfaction, fitness. They will also learn about the relevant standards. The subject is the following topics: Quality of systems a		e .
Procedural proceedings. Lean Management. Standards of the ISO series. Implementation of the Quality Management System (SMJ) in a healthcare	•	
needs for healthcare organizations, process approach. Quality Policy and Quality Targets, Quality Manual, Quality System Audit, Quality Plan, Objective		
Examination, Validation Verification, Qualification Process. Audit: Review, Audit Program, Audit Criteria, Audited Organization, Audit Team, Expert, H	ealth Care Standa	rds. Euromodel
TQM. Management and implementation of processes in healthcare facilities, definition and mapping of processes and subprocesses. Design of integration of processes and subprocesses.	gration of healthca	re facility
management. Possibilities of using TQM within healthcare facilities. Standards and indicators in the quality of health care. Quality in laboratories. Acc	creditation of medi	cal facilities
according to SAK and JCI. Quality management tools. Risk management.		
F7PMSRLZ Management of Human Resources	Z,ZK	3
After completing the course the student will be able to: - understand the history of human resources in health care organizations, originating from a fe		
activity, assuming additional necessary responsibilities as they arose describe or formulate the mission of HR department or area in healthcare or	•	
the principles of teamwork - describe the principles of good leadership and people management Objectives: -to enable students to approach Human		
systematic manner and to recognize its importance for strategic management in Health Care Institutions; -to enable students to reflect and where ap practices internal to the organization with reference to pressures from external institutions; -to help students to come to terms with the complex natu		-
and how the interlocking tasks of Human Resource management respond to changes which occur over time in individual employees and the workfor		entrelationship
F7PMSRNZ Management of Costs in Healthcare	KZ	5
The students are acquainted with basic economic concepts connected with the issue of costs, their division and methods of determination. The costs	I I	
from the point of view of corporate practice and economic theories. Students strive to apply theoretical knowledge and solve practical examples. Pot		
costs are also discussed. An integral part of the course is to practice the given topic using examples and graphs, everything being solved in connection		
to understand the meaning and significance of budgeting and costing from the point of view of management and in relation to economic activities of	-	

F7PMSSDP1	Diploma Thesis Seminar I.	Z	2				
The course is designed	to prepare students for the final work of FBMI CTU, which will demonstrate the student's own analytical and creative abilities as	well as his / her a	bility to integrate				
knowledge from the pre	evious stages of study. The Diploma Thesis Seminar 1 follows up the subject Annual Project. The seminar is conceived as a c	ontinuous and co	ntrolled work on				
the methodology of the	student's research work. On the basis of the current state of the problem, the student will choose the appropriate methods for	or the Diploma The	esis solution and				
develop a specific chap	develop a specific chapter - Methods. The contents of the seminar are the presentation of the procedure, the selection of appropriate methods for processing the student's diploma						
thesis and their ongoing review and discussion. All students will present their research on Student Scientific Conference.							
F7PMSSDP2	Diploma Thesis Seminar II.	Z	2				
The course is designed	The course is designed to prepare students for the final work of FBMI CTU, which will demonstrate the student's own analytical and creative abilities as well as his / her ability to integrate						
knowledge from the pre	vious stages of study. The Diploma Thesis Seminar 2 builds on the outputs of the Seminar for Diploma Thesis 1 and the Annu	al Project. The ai	m of the seminar				
is to teach students how	v to process the results and the discussion and thus bring the diploma work to a successful conclusion. Students will present	2 presentations of	of the progress,				
the elaboration and the	ongoing results of their diploma thesis and their continuous control and discussion. The student is also prepared for the final	defense of his di	oloma thesis.				
F7PMSVZ1	Public Health, Management of Medical Facilities	ZK	5				
F7PMSVZ2	Public Healthcare II.	Z,ZK	4				
F7PMSVKZP	Selected Chapters from Medical Processes	KZ	5				
Healthcare is a highly co	omplex process calling for the fulfillment of a whole range of different technical requirements in order to provide quality health s	ervices. In its intro	oductory section,				
the subject of the cours	e deals with issues such as providing healthcare facilities with resources, delivering pharmaceutical drugs, medical aids and	other essential co	ommodities for				
their operation. It also se	eeks to clarify the issues involving requirements for technical equipment, measuring devices, examination and check-ups of me	dical instrumentati	on, occupational				
safety and health, fire p	rotection, handling of chemicals and chemical compounds, and waste disposal in healthcare facilities. The final set of lecture	s is focused on qu	Jestions of				
safeguarding quality and	d patient safety, protection of employees' and patients' data, procedures for checking the quality of provided care by means of	certification of hea	althcare facilities.				
F7PMSZSED	Medical Systems and their Economic Dimension	Z,ZK	4				
Different elements of he	althcare systems are studied so as the different possibilities of healthcare system design, its conditions and consequences. The	e healthcare syste	ms are analyzed				
in international dimensi	on, the Czech healthcare system is presented in details.						
F7PMSZSVS	Healthcare as Part of the Public Sector	ZK	3				
Healthcare as part of th	e public sector this course ekes out the gained general economic knowledge with issues from public economy discipline, all	, applied to the hea	Ithcare sector. In				
the introductory part, th	e role of the public sector within the national economy is studied and discussed from different points of view. The concept of	market and gover	nment failure				
problematic is presented and discussed - the accent is put mainly on public goods, externalities and control mechanism in the public sector.							
F7PMSDP	Diploma Thesis	Z	8				

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 15

The role of the block: S

Code of the group: F7PMS PV 2S A

Name of the group: Systematic Integration of Processes in Healthcare combined studies compulsory optional course

Requirement credits in the group: In this group you have to gain at least 3 credits (at most 6) Requirement courses in the group: In this group you have to complete at least 1 course (at most 2)

Credits in the group: 3

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
F7PMSJIP	Icus and Mobile Healthcare Units Petr Kudrna	KZ	3	2P+2C	L	S
F7PMSPIZ	Work with Information Sources and Research Methodology	KZ	3	2P+2S	L	S

Characteristics of the courses of this group of Study Plan: Code=F7PMS PV 2S A Name=Systematic Integration of Processes in Healthcare combined studies compulsory optional course

F7PMSJIP	Icus and Mobile Healthcare Units	KZ	3				
The course offers a brief overview of resuscitation and intensive care in anesthesia-resuscitation units, specialized and mobile intensive care units. The aim of the course is present							
current trends in biomed	current trends in biomedical engineering in this area to students. Studying course assumes basic knowledge especially from internal and chirurgic specializations. After the completion						
of the course, the stude	nts should be able to actively communicate with a clinical physician and assist with optimal methods of solution in specific ca	ases.					
F7PMSPIZ	Work with Information Sources and Research Methodology	KZ	3				
The subject introduces the students to the principles of the correct writing of research texts, studies and presentations; also with principles of preparation, execution and processing of							
biomedical experiments, including ethical issues of biomedical research.							

Code of the group: F7PMS PV 2S B

Name of the group: Systematic Integration of Processes in Healthcar combined studies compulsory optional course

Requirement credits in the group: In this group you have to gain at least 2 credits (at most 6) Requirement courses in the group: In this group you have to complete at least 1 course (at most 3) Credits in the group: 2

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
F7PMSITZ	Information Technology in Healthcare	KZ	2	2P+2S	L	S
F7PMSMKZ	Marketing and PR in Healthcare Petra Hospodková	KZ	2	2P+2S	L	S
F7PMSZU	Fundamentals of Accounting Martina Caithamlová	KZ	2	2P+2S	L	S

Characteristics of the courses of this group of Study Plan: Code=F7PMS PV 2S B Name=Systematic Integration of Processes in Healthcar combined studies compulsory optional course

F7PMSITZ	Information Technology in Healthcare	KZ	2			
iffective operation of contemporary health facilities is not possible without a high degree of information technology integration and its impact will further increase in the future. This						
places high demands or	laces high demands on all employees who must guarantee the operation of health care information systems and other database applications as well as perform advanced processing					
of huge amount of data	produced by these systems using common office applications. The course introduces students with basic and advanced conc	cepts and principa	als of information			
technologies and with a	dvanced application of computer technology for storing, analysis and presentation of data. Students will also familiarize with	architecture of co	mputers and			
networks, structure of re	elational databases, data types and their storage and will also adopt basics of informational safety.					
F7PMSMKZ	F7PMSMKZ Marketing and PR in Healthcare KZ 2					
The goal of this subject is to present the basics of marketing in health care institutions and medical devices companies. Specificities of marketing of services are treated. Focus is on						
he quality of the product. In the continuous team work, students set up a marketing strategy of a specified institution or product.						
E7PMS7U	Fundamentals of Accounting	K7	2			

The subject provides students with the fundamentals of accounting, principles of accounting management and accounting terminology. The aim of the subject is to introduce the field of accounting, to acquaint the students with the meaning of accounting and its place in the system of an organization management. To teach the student show to work with the basic concepts of accounting and legal regulations related to accounting.

Code of the group: F7PMS PV 3S A

Name of the group: Systematic Integration of Processes in Healthcar combined studies compulsory optional course

Requirement credits in the group: In this group you have to gain at least 3 credits (at most 9) Requirement courses in the group: In this group you have to complete at least 1 course (at most 3) Credits in the group: 3

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
F7PMSEAZ	Economic Analyses in Healthcare Gleb Donin, Ond ej Gajdoš, Jan Žigmond Jan Žigmond Gleb Donin (Gar.)	KZ	3	2P+2S	Z	S
F7PMSOVZ	Operation Research in Healthcare	KZ	3	2P+2S	Z	S
F7PMSMIP	Project Management Petra Hospodková, Venuše Kneppo Petra Hospodková Petra Hospodková (Gar.)	KZ	3	2P+2S	Z	S

Characteristics of the courses of this group of Study Plan: Code=F7PMS PV 3S A Name=Systematic Integration of Processes in Healthcar combined studies compulsory optional course

F7PMSEAZ	Economic Analyses in Healthcare	KZ	3
The subject follows the	subject of Health Technology Assessment. During the semester the student will get acquainted with specific types of analyze	s (cost-effectiven	ess analysis,
cost-benefit analysis, co	pst-benefit analysis), learn how to work with TreeAge, R and create meta-analyzes and Markov models. The student will furth	er expand his / he	r knowledge of
multi-criteria decision a	nalysis.		
F7PMSOVZ	Operation Research in Healthcare	KZ	3
Art of modeling and ele	ments of decision models, Linear programming, Transportation problem, Integer linear programming, Introduction to graphs t	heory, Nonlinear (programming,
Project management (C	PM, PERT) System approach and decision making, Decision models, Games theory, Decision making under uncertainty and	d risk, Decisions v	with multiple
objectives.			
F7PMSMIP	Project Management	KZ	3
The subject deals with p	roject management, its purpose, concepts and tools. Emphasis is placed on resource planning, allocation of resources to tasks	s, duration and ch	ange, monitoring
of project progress, re-p	lanning of work in progress, etc. The course also includes project visualization, formatting of tables and graphs, form displays, o	calendar display, r	etwork diagram,
resource diagram, custo	om display options etc. Students further elaborate a fictitious project using current software tools to support project managem	nent.	

Code of the group: F7PMS PV 3S B

Name of the group: Systematic Integration of Processes in Healthcar combined studies compulsory optional course

Requirement credits in the group: In this group you have to gain at least 2 credits (at most 4) Requirement courses in the group: In this group you have to complete at least 1 course (at most 2) Credits in the group: 2

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
F7PMSRKD	Development of Communication Skills Dana Rebeka Ralbovská Dana Rebeka Ralbovská Dana Rebeka Ralbovská (Gar.)	KZ	2	2P+2S	Z	S
F7PMSUPS	Application of Psychology and Sociology in Practice Martina Caithamlová	KZ	2	2P+2S	Z	S

Characteristics of the courses of this group of Study Plan: Code=F7PMS PV 3S B Name=Systematic Integration of Processes in Healthcar combined studies compulsory optional course

F7PMSRKD	Development of Communication Skills	KZ	2			
The subject is aimed at	The subject is aimed at enhancing the communication and presentation skills and knowledge that are important for a graduate's successful start in employment. An important part of					
the subject is training in	the subject is training in effectively dealing with people. Students will improve in preparing and delivering professional speeches in front of a small group, in writing business letters and					
emails. They will learn to express criticism and praise and identify their preferred styles of conflict resolution and interpersonal interaction. As potentional non-medical staff in hospitals,						
they will become more familiar with the specifics of communicating with patients.						
F7PMSUPS	Application of Psychology and Sociology in Practice	KZ	2			

Code of the group: F7PMS PV 4S A

Name of the group: Systematic Integration of Processes in Healthcar combined studies compulsory optional course

Requirement credits in the group: In this group you have to gain at least 3 credits (at most 9) Requirement courses in the group: In this group you have to complete at least 1 course (at most 3) Credits in the group: 3

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
F7PMSEHG	E-Health and E-Government Dagmar Brechlerová Dagmar Brechlerová Dagmar Brechlerová (Gar.)	KZ	3	2P+2S	L	S
F7PMSSZZ	Strategy of Healthcare Facilities Martina Caithamlová Martina Caithamlová Martina Caithamlová (Gar.)	KZ	3	2P+2S	L	S
F7PMSMPR	Use of Modern Technical Devices in Rehabilitation	Z,ZK	3	2P+2S	L	S

Characteristics of the courses of this group of Study Plan: Code=F7PMS PV 4S A Name=Systematic Integration of Processes in Healthcar combined studies compulsory optional course

F7PMSEHG	E-Health and E-Government	KZ	3			
The course introduces students to the e-Government (especially given in relation to health care) and e-health, their foundations and principles, especially in the Czech Republic.						
F7PMSSZZ	Strategy of Healthcare Facilities	KZ	3			
A long-term, successful	A long-term, successful existence of each market entity is conditioned by a clear long-term strategy vision. Progressive competition, increased demand for medical services, higher					
demands of patients and significant development of medical science characterise the state of contemporary healthcare. These facts make the management of healthcare facilities more						
challenging and complicated. This subject provides the students with the fundamentals and steps of strategic management, principles of creation and strategic management applied						
to healthcare facilities conditions.						
F7PMSMPR	Use of Modern Technical Devices in Rehabilitation	Z,ZK	3			
The aim of the course is to acquaint students with the possibilities of diagnostics and therapy using technical instruments. Emphasis is placed on explaining the principles of this type						

Code of the group: F7PMS PV 4S B

of therapy and on the use of specific rehabilitation systems in clinical practice.

Name of the group: Systematic Integration of Processes in Healthcar combined studies compulsory optional course

Requirement credits in the group: In this group you have to gain at least 2 credits (at most 6) Requirement courses in the group: In this group you have to complete at least 1 course (at most 3) Credits in the group: 2

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
F7PMSDEV	Design and Ergonomics of Medical Devices	KZ	2	2S+2C	L	S
F7PMSKAJ	English Conversation Jitka Mari áková Jitka Mari áková Jitka Mari áková (Gar.)	KZ	2	2S	L	S
F7PMSZMS	Fundamentals of Modelling and Simulation Aleš Tichopád, Vojt ch Kamenský Vojt ch Kamenský (Gar.)	КZ	2	2P+2C	L	S

Characteristics of the courses of this group of Study Plan: Code=F7PMS PV 4S B Name=Systematic Integration of Processes in Healthcar combined studies compulsory optional course

F7PMSDEV	Design and Ergonomics of Medical Devices	KZ	2			
F7PMSKAJ	English Conversation	KZ	2			
The subject Conversation	The subject Conversation in English language is primarily focused on the development of communication skills, both from the field of general English, and the field of Business English.					
Through the simulation	Through the simulations of real situations, the students practise conversation phrases, relevant terminology and appropriate vocabulary. The emphasis is placed on the accuracy of					
communication skills and vocabulary expansion.						
F7PMSZMS	Fundamentals of Modelling and Simulation	KZ	2			
Basic notions and principles of system modelling generally. Theoretical and applied analysis of qualities of models representing various medical, biochemical, epidemiological, ecological,						
and biological systems. Population modelling. Epidemiological models. Models of pharmacokinetics. Economic Models and Models in Health Technology Assessment.						

List of courses of this pass:

Code	Name of the course	Completion	Credits			
17BOZP	Occupational Safety and Health, Fire Protection and First Aid	Z	0			
F7PMSBE	Business English	KZ	2			
	y material is to make students familiar with the Business English before embarking on a career in business. The course covers not or	ly terminology cor	nected with			
the field of busines	ss English, but also grammar most often used in the given context. The material depicts a wide range of business topics including Jol	os, Organisations,	Marketing,			
Finance, Accountin	g etc. It presents and explains new words in the context of real situations and shows the student how to use them and how to work ou	it the rules for usin	g them. The			
students practise th	neir newly acquired knowledge in the exercises related. The material is also designed to help the students to orientate in business en	vironment of differ	ent cultures			
as well as to improv	e their speaking skills, using open questions for the students to discuss and talk about. Thus it allows the student to express their idea	s, support or quest	ion different			
	opinions and get prepared for real business sphere.					
F7PMSBSCD	Statistical Methods in the Analysis of Clinical Studies	Z,ZK	4			
The course focuses	on methods of statistical analysis designed primarily for medical research and clinical evaluation of medical devices. Students will be	introduced to clinic	al research:			
	methodology, clinical study design and then to commonly used methods of processing and testing clinical data.					
F7PMSDEV	Design and Ergonomics of Medical Devices	KZ	2			
F7PMSDP	Diploma Thesis	Z	8			
F7PMSEAZ	Economic Analyses in Healthcare	KZ	3			
	is the subject of Health Technology Assessment. During the semester the student will get acquainted with specific types of analyzes		-			
cost-benefit analys	is, cost-benefit analysis), learn how to work with TreeAge, R and create meta-analyzes and Markov models. The student will further e	expand his / her kn	owledge of			
	multi-criteria decision analysis.					
F7PMSEHG	E-Health and E-Government	KZ	3			
	duces students to the e-Government (especially given in relation to health care) and e-health, their foundations and principles, espec	-	-			
F7PMSEK	Economics	Z,ZK	5			
	ices the main rules and notions of microeconomics, the market theory, market environment, market balance, demand and supply. Fu					
	d and supply elasticity - graphiical and mathematical expression of elasticity, consumer's behavious, his optimum. The lecture continu					
-	production, profit maximization, etc. The end of the microeconomics part introduces the theory of perfect/imperfect competition (mor ncerns macroeconomics, the course deals above all with the gross domestic product, its creation, distribution, and practical utilization.		-			
	ey market, monetary policy, its tools and goals. Inflation, its nature, forms, causes and effects. Unemployment. The following part of th					
	policy, national budget, Maastricht criteria. The course is finished with international trade, balance of payments, exchange rat		in the hotal			
F7PMSEMM	Economic-mathematical Methods	KZ	2			
	natical Methods in Economics combines both theoretical knowledge and practical skills. Theoretical knowledge is necessary to formul					
	lve decision problems and optimal management of economic processes. Practical knowledge is trained in solving specific situations					
	are introduced to specific methods and techniques of economic and mathematical data analysis.					
F7PMSEZZ	Economy of Healthcare Facilities	Z,ZK	3			
The course introd	uces the basic categories of economics of healthcare facilities (hospitals, public and private clinics) with respect to cost, revenues ar	nd performance. It	deals with			
financial manageme	ent, marketing and other health-related professional activities and functions and their management. Health economics is a specific branc	h within economics	s concerned			
with the efficient	allocation of scarce resources with respect to health and healthcare. It aims to develop and deepen the knowledge and skills of stud	lents in the field of	financial			
management too	ols, financing of healthcare needs and performance analysis. The accent is also put on the understanding of the healthcare facility in	its integrity and co	mplexity,			
	especially with respect to the basic target function.					
F7PMSHZT	Health Technology Assessment	Z,ZK	4			
F7PMSIP	Individual Training	Z	2			
	ofessional training is an integral part of good and qualified preparation for prospective occupation. The training provides a student wit		-			
	ge in the form of independent work supervised by a professional worker. The Individual professional training represents such form of					
-	lual workplaces within medical facilities, or in production or servicing organizations in the field of medical devices. The students, on the	-	-			
	per practical skills and work independently under supervision of an appointed worker. The training on selected workplaces must be o d other measures, relevant for the specific workplace must be followed within the training. Students are acquainted with the regulatior					
	ed and evaluated by its guarantor. The professional training of students of the program Systematic integration of processes in Health	-				
	a documentation of medical devices in medical facilities, medical procedures reports to health insurance companies, area of tenders.		-			
-	aration and realisation of purchase of medical devices, management quality in medical facilities, work with information systems, opera					
	audit and other activities.	C C				
F7PMSITZ	Information Technology in Healthcare	KZ	2			
	n of contemporary health facilities is not possible without a high degree of information technology integration and its impact will furthe					
-	ds on all employees who must guarantee the operation of health care information systems and other database applications as well as					
of huge amount of o	data produced by these systems using common office applications. The course introduces students with basic and advanced concept	s and principals of	information			
technologies and	technologies and with advanced application of computer technology for storing, analysis and presentation of data. Students will also familiarize with architecture of computers and					
	networks, structure of relational databases, data types and their storage and will also adopt basics of informational safety.					

F7PMSIZS	Integrated Rescue System and the Disaster Medicine	ZK	5
	urse is to acquaint the students with the origin and development of the Integrated Rescue System (IRS) in the Czech Republic, its cha		
	IRS bodies in the preparedness and solution of emergency and crisis situations, with the principles of tactical, operational and strateg	-	
	e public authorities in handling emergency situations and within the population protection. The course furthermore provides informatic ealth care service in relation to the provision of medical care, on the field of crisis management, and above all on the preparedness o		
	gency and crisis situations involving mass casualties, including the processes and procedures arising from trauma plans of outpatien	-	-
F7PMSIZZ	Information Sources in Healthcare	KZ	3
F7PMSJIP	Icus and Mobile Healthcare Units	KZ	3
	a brief overview of resuscitation and intensive care in anesthesia-resuscitation units, specialized and mobile intensive care units. The		-
	omedical engineering in this area to students. Studying course assumes basic knowledge especially from internal and chirurgic specia		•
of th	e course, the students should be able to actively communicate with a clinical physician and assist with optimal methods of solution in	specific cases.	
F7PMSKAJ	English Conversation	KZ	2
The subject Conve	rsation in English language is primarily focused on the development of communication skills, both from the field of general English, and	d the field of Busin	ess English.
Through the simu	lations of real situations, the students practise conversation phrases, relevant terminology and appropriate vocabulary. The emphasis	is placed on the a	ccuracy of
	communication skills and vocabulary expansion.		
F7PMSLKH	Legislation in Healthcare and Clinical Evaluation	Z,ZK	5
	s of the course unit The goal is to acquaint students with the rights and obligations arising from current legislation on health care issue		
memorizing the lite	ral wording of the legislation, but on familiarizing students with the main points and ideas contained in EU directives, regulations, laws	s, standards and E	U directives
	in healthcare. The student should have a comprehensive overview of health legislation after completing the course.	V7	2
F7PMSMIP	Project Management vith project management, its purpose, concepts and tools. Emphasis is placed on resource planning, allocation of resources to tasks, du	KZ	3
,	, re-planning of work in progress, etc. The course also includes project visualization, formatting of tables and graphs, form displays, cale	•	
	burce diagram, custom display options etc. Students further elaborate a fictitious project using current software tools to support project		Jik ulayiani,
F7PMSMKZ	Marketing and PR in Healthcare	KZ	2
	bject is to present the basics of marketing in health care institutions and medical devices companies. Specificities of marketing of ser		
	the quality of the product. In the continuous team work, students set up a marketing strategy of a specified institution or product.		
F7PMSMPR	Use of Modern Technical Devices in Rehabilitation	Z,ZK	3
	rse is to acquaint students with the possibilities of diagnostics and therapy using technical instruments. Emphasis is placed on explain		-
	of therapy and on the use of specific rehabilitation systems in clinical practice.		or this type
F7PMSMZT	Health Technology Management	KZ	5
	spital and its architecture. Distributions of stuff (engineering distributions electro-circuits, specifics of the circuits, water, gas distributions		-
	ation, spaces in health care specifics of elementary spaces, steam distribution). Practical seminars from design of the project. Typical		
<i>,</i> ,	Ministry of health CR specifying all requirements for different departments and devices. Barrier-free construction of health institu		
F7PMSMZZ	Management of Medical Facilities	Z,ZK	4
	se is to introduce the basic categories in management such as organizing, decision making, influencing or human resources. The introdu	· ·	nanagement
is a part of the cou	rse. The accent is put on the differences of the health facilities in comparison with the classical company. The aim of seminars is to co	onnect the theory a	ind practice,
	and the second		
	so case studies and team activities form the content of seminars.		
F7PMSNIS	so case studies and team activities form the content of seminars. Hospital Information Systems	Z,ZK	3
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The subject addre	Hospital Information Systems	mation is put in the	context of
The subject addre Czech eHealth sys a	Hospital Information Systems esses all subsystems of Hospital information systems (HIS) which means information systems of individual health facilities. This inforr stems. Not only single components (including examples from practice) are addressed, but also adjacent topics are accented (eHealth nd perspectives, classification systems, technical standards, security of information systems, basic knowledge of database and intra-	nation is put in the systems and its d net systems).	context of evelopment
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The subject addre Czech eHealth sys a F7PMSOP	Hospital Information Systems esses all subsystems of Hospital information systems (HIS) which means information systems of individual health facilities. This inforr stems. Not only single components (including examples from practice) are addressed, but also adjacent topics are accented (eHealth nd perspectives, classification systems, technical standards, security of information systems, basic knowledge of database and intrar Professional Training training completes the practical part of education in the study program Systematic Integration of Processes in Health Care. Students get	nation is put in the systems and its do net systems). Z acquinted with an o	context of evelopment
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Proceedural proceedings. Lean Management. Standards of the ISO series. Implementation of the Quality Management System (SMJ) in a healthcare organization, justification of SMU needs for healthcare organizations, process approach. Quality Policy and Quality Targets, Quality Manual, Quality System Audit, Quality Plan, Objective Evidence, Inspection, Inspection, Examination, Validation Verification, Qualification Process. Audit: Review, Audit Program, Audit Criteria, Audited Organization, Audit Team, Expert, Health Care Standards. Euromodel TQM. Management and implementation of processes in healthcare facilities, definition and mapping of processes and subprocesses. Design of integration of healthcare facility

management. Possibilities of using TQM within healthcare facilities. Standards and indicators in the quality of health care. Quality in laboratories. Accreditation of medical facilities according to SAK and JCI. Quality management tools. Risk management.

	according to SAK and JCI. Quality management tools. Risk management.				
F7PMSRLZ	Management of Human Resources	Z,ZK	3		
After completing the	e course the student will be able to: - understand the history of human resources in health care organizations, originating from a few s	cattered tasks to a	centralized		
activity, assuming additional necessary responsibilities as they arose describe or formulate the mission of HR department or area in healthcare organization - understand and apply					
the principles of teamwork - describe the principles of good leadership and people management Objectives: -to enable students to approach Human Resource Management in a					
systematic manne	er and to recognize its importance for strategic management in Health Care Institutions; -to enable students to reflect and where app	ropriate, modify po	licies and		
	o the organization with reference to pressures from external institutions; -to help students to come to terms with the complex nature o		-		
and how t	he interlocking tasks of Human Resource management respond to changes which occur over time in individual employees and the w	orkforce as a who	le.		
F7PMSRNZ	Management of Costs in Healthcare	KZ	5		
	equainted with basic economic concepts connected with the issue of costs, their division and methods of determination. The costs are				
	view of corporate practice and economic theories. Students strive to apply theoretical knowledge and solve practical examples. Poten	•			
	issed. An integral part of the course is to practice the given topic using examples and graphs, everything being solved in connection w	-			
	rstand the meaning and significance of budgeting and costing from the point of view of management and in relation to economic activ				
F7PMSRP	Annual Project	Z	2		
	gned to prepare students for the final work of Faculty of Biomedical Engineering, CTU, which will demonstrate the student's own anal	-			
	nowledge from the previous stages of study. Subject "Annual project represents the first stage of the diploma thesis. The main goal is				
	tate of the issue of generating a suitable topic of the diploma thesis, description of the goals, overview of the planned methods, expect				
	he end of the second semester, the selected entry is entered into the approval process of the department, subject to the following cor		-		
	Systematic Integration Processes in Healthcare concept (ie focusing on at least 2 of the three basic disciplines: economic, manageri				
	scientific work to meet the parameters for DP (especially in terms of planned methods and benefits) The topics are prepareed by the	-			
	ECTS" system, and during the semester they are specified. To ensure the aforementioned conditions, the student cooperates with the	•			
	pates in the adaptation. Pursuant to Act 111/1998 Coll. the student has the opportunity to design a topic for which the above conditions ojects become the starting point for the second seminar, ie the Diploma Thesis Seminar 1, where the student elaborates further parts		-		
, ,,					
F7PMSSDP1	Diploma Thesis Seminar I.	, ∠	2		
-	ned to prepare students for the final work of FBMI CTU, which will demonstrate the student's own analytical and creative abilities as we		-		
•	e previous stages of study. The Diploma Thesis Seminar 1 follows up the subject Annual Project. The seminar is conceived as a conti				
	the student's research work. On the basis of the current state of the problem, the student will choose the appropriate methods for the	•			
develop a specific	chapter - Methods. The contents of the seminar are the presentation of the procedure, the selection of appropriate methods for proc thesis and their ongoing review and discussion. All students will present their research on Student Scientific Conference.	essing the student	s upioma		
		Z	2		
F7PMSSDP2	Diploma Thesis Seminar II.	I – I			
•	ned to prepare students for the final work of FBMI CTU, which will demonstrate the student's own analytical and creative abilities as we e previous stages of study. The Diploma Thesis Seminar 2 builds on the outputs of the Seminar for Diploma Thesis 1 and the Annual F		•		
-	s how to process the results and the discussion and thus bring the diploma work to a successful conclusion. Students will present 2 p	-			
	nd the ongoing results of their diploma thesis and their continuous control and discussion. The student is also prepared for the final di				
F7PMSSZZ	Strategy of Healthcare Facilities	KZ	3		
	essful existence of each market entity is conditioned by a clear long-term strategy vision. Progressive competition, increased demand	I ·· I	-		
-	s and significant development of medical science characterise the state of contemporary healthcare. These facts make the manageme		-		
	omplicated. This subject provides the students with the fundamentals and steps of strategic management, principles of creation and s				
5 5 5 5 5	to healthcare facilities conditions.	5			
F7PMSUPS	Application of Psychology and Sociology in Practice	KZ	2		
F7PMSVKZP	Selected Chapters from Medical Processes	KZ	5		
	ly complex process calling for the fulfillment of a whole range of different technical requirements in order to provide quality health servi	I ·· I	-		
-	course deals with issues such as providing healthcare facilities with resources, delivering pharmaceutical drugs, medical aids and oth		-		
•	so seeks to clarify the issues involving requirements for technical equipment, measuring devices, examination and check-ups of medical				
	h, fire protection, handling of chemicals and chemical compounds, and waste disposal in healthcare facilities. The final set of lectures				
safeguarding qualit	y and patient safety, protection of employees' and patients' data, procedures for checking the quality of provided care by means of cert	ification of healthca	are facilities.		
F7PMSVZ1	Public Health, Management of Medical Facilities	ZK	5		
F7PMSVZ2	Public Healthcare II.	Z,ZK	4		
		KZ	2		
F7PMSZMS	Fundamentals of Modelling and Simulation	I I			
	rinciples of system modelling generally. Theoretical and applied analysis of qualities of models representing various medical, biochemic cal systems. Population modelling. Epidemiological models. Models of pharmacokinetics. Economic Models and Models in Health Tec		-		
-					
F7PMSZSED	Medical Systems and their Economic Dimension	Z,ZK	4		
Different elements (of healthcare systems are studied so as the different possibilities of healthcare system design, its conditions and consequences. The he in international dimension, the Czech healthcare system is presented in details.	anncare systems a	re analyzed		
		71/	0		
F7PMSZSVS	Healthcare as Part of the Public Sector	ZK	3		
•	of the public sector this course ekes out the gained general economic knowledge with issues from public economy discipline, all appl				
the introductory part, the role of the public sector within the national economy is studied and discussed from different points of view. The concept of market and government failure					
	problematic is presented and discussed - the accent is put mainly on public goods, externalities and control mechanism in the public		2		
F7PMSZU	Fundamentals of Accounting	KZ	2		
	es students with the fundamentals of accounting, principles of accounting management and accounting terminology. The aim of the students with the management Te teach the students with the management. To teach the students with the management and the place in the students with the management.	-			
or accounting, to a	cquaint the students with the meaning of accounting and its place in the system of an organization management. To teach the studer concepts of accounting and legal regulations related to accounting.	IL SHOW LO WOLK WIT	n the basic		

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