University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Digital Technology in Pharmacy

Teachers: Marinkovic D. Valentina, Tadic B. Ivana, Odalovic M. Marina

Course status: elective

Semester: II	**Year of studies:** I
ECTS points: 5	**Course code:** СФММИ1

Requirements: no

Course aims:

Introduction to the benefits of digital technologies in the health care systems, pharmaceutical industry and society. Protection of electronic data of patients/consumers from potential abuse in internet environment.

Course outcomes:

Introduction with the digital technologies in modern society. Knowledge about economic, social, legal and marketing framework for e-commerce in the pharmaceutical care and health care.

Course contents:

Lectures

Introduction to pharma e-business. Conducting business on the internet (buying, selling, business organization in the network environment, organization of business communications to all stakeholders, customer care). Combined use of information technology and telecommunication. Economic, legal and social aspects of pharmaceutical e-business and the regulatory framework. Internet platform for commercial activities and promotion of the health life industry. Data integrity and consumer protection. Methods for efficient operations and savings costs. Codes which regulate business, which is achieved through the Internet. E - business in pharmacy practice and e-pharmacy. Ethical aspects of e - pharmacy and regulatory framework. Basic concept and principles of e-health and m-health.

Practical classes

Practical classes includes learning, analyzing and discussing practical examples of theoretical lessons. Analysis of promotional activities on the electronic media of manufacturers of medical products. Web environment, e -platform for work activities as a source of competitive advantage. Analysis of regulation e - sales of medical products/services. Quality Management of online Information . Internet environment, an electronic platform for the work processes as a source of competitive advantage. Analysis of regulation about internet sales of medical products/services.

Recommended literature:

1. Tasić Lj, Marinkovic V Farmaceutski menadžment i marketing. Beograd: Farmaceutski fakultet; 2018.

2. Nagles K, Da Cruz P, Muller MC. Virtuel Companies Becoming a Reality in Healthcare. Drugs; 2001.

3. Celi L.A.G, et al. Global Health Informatics: Principles of eHealth and mHealth to Improve Quality of Care. 1st Ed. Cambridge, MA: The MIT Press; 2017.

The total of active learning classes

Lectures: 30	**Practical classes:** 30
Research work: 15	**Other forms of teaching:** 15

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discussion, homework, on-line forum.

Assessment: written exam- final test

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	
Seminars	10		
Other activities			

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Pharmaceutical marketing

Teachers: Marinkovic D. Valentina, Dusanka M. Krajnovic, Ivana B. Tadic

Course status: mandatory

Semester: I	**Year of studies:** I
ECTS points: 10	**Course code:** СФММО3

Requirements: no

Course aims:

Introduction to the philosophy and methodology of market research of pharmaceuticals, health and pharmaceutical services. Introduction to the regulatory and ethical framework of pharmaceutical marketing practices and the concept of social marketing. introduction of market and the methodology for health promotion and disease prevention. Basics of pharmacoepidemiology and pharmacovigilance.

Course outcomes:

Developing the techniques of segmentation and market research. Critical analysis of marketing, post-marketing, pharmacoeconomic and similar studies. Developing of knowledge and skills in the design, implementation and evaluation of promotional campaigns (approaches: producers, users / consumers, and society). Ability to analyze regulatory and ethical standards, and lounching the products toward the professionals and the general public.

Course contents:

Lectures

General principles of pharmaceutical marketing (manufacturers, patients and society aspects); marketing mix , models, methods and techniques of marketing. Marketing and its role. General concepts of marketing. Market segmentation. Strategy and tactics. Analysis of client needs (prescribers, financiers, users - patients). Market research of drugs versus analytical marketing. Principles in pharmacoepidemiology and pharmacovigilance. Postmarketing monitoring of medicines. Public health marketing (social marketing). General concepts of social marketing. Components and techniques of social marketing. Regulation and ethics in advertising and marketing of pharmaceutical products and services.

Practical classes

As part of the practical classes there you will examine, analyze and discuss practical examples of theoretical lessons. Creating a mission, vision, strategy and tactics of the organization. Segmentation of the market, analysis of target markets, analyzis of customer needs. Market research using the methods: Boston Consulting Group matrix, SWOT analysis, benchmarking and portfolio analysis. Preparation the plans for a promotional campaign (products and services). Critical analysis of pharmacoepidemiological studies. Critical analysis of marketing activities in terms of ethical principles, regulatory framework and users protection. Sales techniques in regulated environment.

Recommended literature:

1. Kotler P. Marketing menadžment. Beograd: Data Status; 2006.
2. Тасић Љ, Маринковић В. Фармацеутски менаџмент и маркетинг. Београд: Фармацеутски факултет; 2018.
3. Jobber F. Fahy J. Основи маркетинга; Дата статус, Београд; 2006.
4. Dogramatzis D. Pharmaceutical Marketing a Practical Guide. Denver: Interpharm Press; 2002.
5. Beauchamp T, Bowie N, Arnold D. Ethical theory and business. 8th ed. New Jersey: Prentice Hall; 2007.

The total of active learning classes

Lectures: 45	**Practical classes:** 30
Research work: 15	**Other forms of teaching:** 45

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points

Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	
Seminars	10		
Other activities			

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Pharmaceutical management

Teachers: Marinkovic D. Valentina, Dusanka M. Krajnovic, Ivana B. Tadic

Course status: mandatory

Semester: I	**Year of studies:** I
ECTS points: 10	**Course code:** СФММО1

Requirements: no

Course aims:

Introduction of general principles of pharmaceutical management. Indroduction of quality management systems (QMS).

Course outcomes:

Eficient and efective organisation of pharmaceutical activities for succesful company in global- local enviroment. Preparation of strategies and policies for strategic positioning, business/ develompment plan.

Course contents:

Lectures

General concept of management; management of health system. Definition of management. Concept of quality management in pharmacy. Concept of Total quality management and business excellence. Introduction of basic management tools and implementation in real business systems. Banchmarking. Balanced score cards. Key performance indicators - definition, identification and monitoring. Pharmacopolitics. Pharmaceutical and pharmacy management. Supply chain management. Selection, procurment, distribution and use of pharmaceuticals. System of bid and tender of medicines and medical devices. Mission, vision and leadership in pharmacy; globalisation and outsource in pharma business.

The modern concept of pharmacy practice. Planning and funding of pharmaceutical business systems / operations. Cost analysis and rational use of medicines. Factors that influence the drug use. Fundamentals of financial management and sources of funding. Fundamentals of Human Resource Management. Personal characteristics of managers. Leadership.

Practical classes

Study, analysis and discussion of practical examples by mock-up of pharma business activities. Company structure analysis: pharmacy, wholesale, industry. Strategy, mission, vision in pharma companies. Structure, processes, outcomes of business systems

Recommended literature:

1. Тасић Љ, Маринковић В. Фармацеутски менаџмент и маркетинг. Београд: Фармацеутски факултет; 2018.
2. Desselle P, Zgarrick D. Pharmacy Management- Essentials for All Practice Settings. Mc Grow Hill, SAD; 2009.
3. Rees H. Supply chain management in the drug industry; Delivering patient value for pharmaceuticals and biologics. John, Wiley & Sons, Inc. Hoboken, New Jersy, SAD, 2011.
4. Drucker PF. Management: Tasks, Responsibilities, Practices. New York: Harper & Row; 1985.
5. Тасић Љ, Маринковић В. Квалитет у фармацији –од теорије до праксе. Београд: Фармацеутски факултет; 2012.

The total of active learning classes

Lectures: 45	**Practical classes:** 30
Research work: 30	**Other forms of teaching:** 45

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	
Seminars	10		
Other activities			

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Strategic management

Teachers: Marinkovic D. Valentina, Krajnovic M Dušanka, Odalović M. Marina

Course status: mandatory

Semester: I	**Year of studies:** I
ECTS points: 5	**Course code:** СФММО2

Requirements: no

Course aims:

Planning and organizing activities in the pharmaceutical and healthcare industry at macro, meso and micro level.

Course outcomes:

Knowing the basis for rational use of drugs and the importance of pharmacoeconomics and pharmaceutical business.

Course contents:

Lectures

Strategic planning and directions of the development of pharmaceutical business. Situational analysis: analysis of strength determination, weaknesses of threats and chances of business (SWOT) and analysis of political economic and social and technological impacts (PEST). Approaches and models in project management. Project management in support of the realization of the business plan. Elements of business plan and importance of business plan in business development. The importance of managing the changes in the era of globalization. Change control. Management of the business continuity and Sustainable Development. Crisis management - behavior in critical situations. Safety management - theft, burglary, corruption. The concept and standards of social responsibility. The use of information technology as a support system in the modern pharmaceutical enrolment. Project management to support the implementation of the business plan.

Practical classes

During the practical courses students will study, analyze, discuss the practical examples and simulate the situation in pharmaceutical organizations. Creating and defending a business plan. Creating a business plan and analyzing all its constituencies: business analysis, organization environment analysis, financial plan, marketing plan procurement proposal, feasibility and sustainability of the created plan.

Recommended literature:

1. Тасић Љ, Маринковић В. Фармацеутски менаџмент и маркетинг. Београд: Фармацеутски факултет; 2018.
2. Spilker B. Multinational Pharmaceutical Companies: principles and practices. 2nd ed. Boston: Ravens press; 1994.
3. Porter M. Competitive Strategy: Techniques for Analyzing Industries and Competitors. Free Press; SAD; 1980.
4. Kaplan. Norton. The Balanced Scorecard. Harvard Business School Press; SAD. 1996.
5. Kerzner H. Project Management – Best Practices, John Wiley & Sons, Inc SAD; 2010.

The total of active learning classes

Lectures: 15	**Practical classes:** 15
Research work: 45	**Other forms of teaching:** 30

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	
Seminars	10		

Other activities		

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Information systems and technology in pharmacy

Teachers: Marinkovic D. Valentina, Tadic B. Ivana

Course status: mandatory

Semester: II	**Year of studies:** I
ECTS points: 5	**Course code:** СФММО4

Requirements: no

Course aims:

Introduction to information systems in the pharmaceutical business. Introduction to standards in the pharmaceutical and health informatics. The use of databases and internet/intranet network in the pharmaceutical business.

Course outcomes:

The use of pharmaceutical and healthcare information systems. Knowledge and understanding of information technology and the potential for the development of the pharmaceutical business. Evaluation of information in business, especially from the pharmaceutical web based company.

Course contents:

Lectures

Information systems and technology (aspect from manufacturers, patients, and society). Information systems in pharmacy (health care information systems, pharmaceuticals information systems, medicines, medical devices, classification, code lists, databases coding) - design, architecture and structure. Business process re-engineering – change into a competitive pharmaceutical organization. Methods and software for the pharmaceutical and health information system. Databases (general concepts, logistics framework, routers transfer data), analysis and processing. Internet-intranet in the pharmaceutical business. Standards and regulations in the pharmaceutical informatics.

Practical classes

Information systems and technology (aspect from manufacturers, patients, and society). Information systems in pharmacy (health care information systems, pharmaceuticals information systems, medicines, medical devices, classification, code lists, databases coding) - design, architecture and structure. Business process re-engineering – change into a competitive pharmaceutical organization. Methods and software for the pharmaceutical and health information system. Databases (general concepts, logistics framework, routers transfer data), analysis and processing. Internet-intranet in the pharmaceutical business. Standards and regulations in the pharmaceutical informatics.

Recommended literature:

1. Тасић Љ, Маринковић В. Фармацеутски менаџмент и маркетинг. Београд: Фармацеутски факултет; 2018.
2. Millares M. Applied Therapeutics - Applied Drug Information: Strategies for Information Management. Michigan: Applied Therapeutics; 1998.
3. Кончар Ј. Електронска трговина. 2 издање. Суботица: Економски факултет Суботица; 2008.

The total of active learning classes

Lectures: 35	**Practical classes:** 35
Research work: 10	**Other forms of teaching:** 45

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	

Seminars	10	
Other activities		

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Innovative Approaches in Pharmacy

Teachers: Valentina D. Marinković, Tadić B.Ivana

Course status: elective

Semester: II	**Year of studies:** I
ECTS points: 5	**Course code:** СФММИ3

Requirements: no

Course aims:

Introduction of the new technology in pharmacy and their influence on pharmacy services. Introduction of legislation and ethical framework of drug development and knowledge and technology transfer. Understanding of project management and risk management in new trends in pharma business. Acquiring of new approaches and technologies and change management in

Course outcomes:

After this course, participants will be trained to consider and critically analyze: the impact of new innovative technologies on the health system; ways to extend the life cycle of the product, including the aspect of patent law; the use of different platforms / media for the delivery of new technologies; ways to improve health services.

Course contents:

Lectures

New trends in research and development within the pharmaceutical industry. Management of development of new pharmaceutical innovative technologies and protection of intellectual rights. Data exclusivity. Competition analysis. Innovation and entrepreneurship - specificity of pharmaceutical business. Project management related to the development of new products / services. Introduction to the principles of selected ISO standards related to pharmacy operations. Managing new knowledge and technology transfer. Processes for identifying, assessing, analyzing, controlling and minimizing risks in a different pharmaceutical environment. Analysis of available health technologies in Serbia and consideration of innovation opportunities.

Practical classes

The exercises are studied, analyzed and discussed by practical examples of previous theoretical teaching units Analysis of the development model of new health technologies. Preparation of a plan for the development, introduction and control of new health services. Analysis of innovation (products / services) by selected criteria. Use of risk management tools. Analysis of contractual research organizations in pharmaceutical business.

Recommended literature:

1. Ding et al. (eds.), Innovation and Marketing in the Pharmaceutical Industry. Springer Science+Business Media, New York 2014.
2. Тасић Љ, Маринковић В. Фармацеутски менаџмент и маркетинг. Универзитет у Београду – Фармацеутски факултет. Београд 2018.
3. WHO: The role of intellectual property in local production in developing countriesOpportunities and challenges. WHO Press, World Health Organization, Geneva. 2016.
4 Z. Antonijevic (ed.), Optimization of Pharmaceutical R&D Programs and Portfolios: Design and Investment Strategy. Springer International Publishing Switzerland 2015.

The total of active learning classes

Lectures: 30	**Practical classes:** 30
Research work: 15	**Other forms of teaching:** 15

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50

Colloquia		Oral	
Seminars	10		
Other activities			

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical Management and Marketing

Course title: Competencies and Human Resource Management in Pharmacy

Teachers: Dušanka M. Krajnović, Valentina D.Marinković

Course status: elective

Semester: II	**Year of studies:** I
ECTS points: 5	**Course code:** СФММИ5

Requirements: no

Course aims:

Introduction of principles and techniques about Human resource management (HRM) in pharmaceutical organisations and pharmacy environment. Introduction of HMR processes. Definition of behavioral and functional competencies and performances of pharmacist in different business environment.

Course outcomes:

Aquiring of basic methods, tools and techniques in HRM processes., and how organizational culture influences organizational learning and leadership Candidates will be trained to define, review, evaluate and improve the competencies and performances of pharmacist in different pharma business environment

Course contents:

Lectures

Humen resources- definition and importance. Human resources processes in modern pharma business enviroment. Using of phsychological tests in human resousrces evaluation. Resource optimisation as a conseqvence of globalisation in pharmaceutical supply chain. Delegation and empourment. Process and principles of feed-back. Conflict solving, rewards and punishments. Strike-legal framework in health institution. Labor contract suspension. Labor legislation- Labor law, labor contract. Motivation. Time management. Competences of pharmasist. Required skills and characteristics of pharmasist. Key performance indicators and employee assesment. Planing, realisation and evaluation of training. Salary calculation.

Practical classes

Introduction of processes, roles and responsibilities in human resources management, using real examples in pharmaceutical and healthcare systems. Self assesment of manager's profil and formng od succsesful teams. Simulation of conflict situation- conflict solving; giving the feed- back.

Recommended literature:

1. Petkovic M, Janićević N, Bogićević Milikić B. Organizacija, dizajn, ponašanje, ljudski resursi, promene. Beograd: Centar za izdavačku delatnost Ekonomskog fakulteta; 2006.

The total of active learning classes

Lectures: 30	**Practical classes:** 30
Research work: 15	**Other forms of teaching:** 15

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	
Seminars	10		
Other activities			

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical Management and Marketing

Course title: Business Communication in pharmacy

Teachers: Dušanka M. Krajnović, Marinković D. Valentina

Course status: elective

Semester: II	**Year of studies:** 1
ECTS points: 5	**Course code:** СФММИ2

Requirements: no

Course aims:

Importance of communication with patient/citizen, health employees and business partners. Introduction to the styles of communication and handling information. Significant and concept of public relations.

Course outcomes:

Enablement for effective communication with citizen/ patients and health employees (developed verbal and non verbal skills of communication). Understanding corporative culture, social responsibility and cultural implication in communication, as well as pharmacotherapy and heath literacy

Course contents:

Lectures

The concept and significance of communication in pharmaceutical business (the aspect of the manufacturer, the patient and the society). Types of communication (verbal, non verbal and written communication) and business culture (ethical, cultural, social aspects and pharmacy culture). Quality management of communication (standards of good communication). Global business environment (east and west culture). Health related quality of life (general and specific knowledge and skills of communication). Pharmaceutical culture (integrated communication, communication in virtual, public and health settings). Specific processes communication in relation to the target group of patients.

Practical classes

Examples of theoretical units are analyzed and discussed in practical training. Practical examples of different forms, styles, verbal and written communication. Designing plan and program of marketing communication (new medicine; the new image of the public pharmacy). Analysis of practical examples of communication. Preparations for communication with patients and health employees (specificity). Consideration of elements of written communication. Example of written communication and analysis. Use of tools for researching attitudes, habits, and behaviors of patients. Simulation of a press conference and crisis management.

Recommended literature:

1. Тасић Љ, Крајновић Д, Јоцић Д, Јовић С. Комуникација у фармацеутској пракси. Београд: Фармацеутски факултет Београд; 2011.
2. Beardsley SR, Kimberlin LC, Tindall NW. Communication Skills in Pharmacy Practice. 5nd ed. Baltimore: Lippincott Williams & Wilkins; 2008.
3.Berger B.Communication skills for pharmacists:Building relationships, Improving Patient care.3rd ed. Washington: Americal Pharmaeutical Association; 2009.

The total of active learning classes

Lectures: 30	**Practical classes:** 30
Research work: 15	**Other forms of teaching:** 15

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	

Seminars	10	
Other activities		

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Selected Chapters of Pharmacoeconomics

Teachers: Dragana M. Lakić, Tadić B. Ivana, Odalović M. Marina

Course status: elective

Semester: II	**Year of studies:** I
ECTS points: 5	**Course code:** СФММИ6

Requirements: no

Course aims:

Introduction to basic terms and concepts: economics, health economics, pharmacoeconomics. Introduction and consideration of perspectives in pharmacoeconomic analyzes. Introduction to methods of pharmacoeconomic analysis. Identifying and defining costs and outcomes of importance for pharmacoeconomic analysis. Gaining skills in carrying out simple pharmacoeconomic analyzes.

Course outcomes:

After this course, participants will be able to: Based on the identification of outcomes, propose an adequate pharmacoeconomic analysis; in relation to the perspective of the study identify all costs; to independently carry out simple pharmacoeconomic analyzes.

Course contents:

Lectures

Introduction to pharmacoeconomics. Outcomes and costs. Calculating the cost of treatment. Types of costs (direct and indirect). Subcategories of costs (total, average, marginal, incremental). Assessment of costs. Discounting. Perspective in calculating costs. Pharmacoeconomic methods: cost-minimization analysis, cost-effectiveness analysis, cost-benefit analysis and cost-utility analysis. Methods of assessment of patient preference and utility (method time balance, visual analog scale, standard gamble). Health related quality of life.

Practical classes

Calculating the cost of treatment. Practical work - application of cost-minimization analysis. Practical work - cost-effectiveness analysis. Practical work - cost-benefit analysis. Practical work - cost-utility analysis. The method for assessing the patient preferences. Determination of the quality of life. Types of questionnaires to measure preferences.

Recommended literature:

1. Drummond MF, Sclupher MJ, Claxton K, Stoddart GL, Torrance GW. Methods for the economic evaluation of health care programmes. 4th Ed. New New York: Oxford University Press; 2015.
2 Gray AM, Clarke PM, Wolstenholme JL, Wordsworth S. Applied Methods of Cost-effectiveness Analysis in Healthcare. 3rd Ed. Oxford University Press 2012. 3. Rascati KL. Essentials of Pharmacoeconomics. 2nd Ed. Wolters Kluwer, Philadelphia, 2012.
4. Bingefors K, Hedblom EC, Pashos CL, Torrance GW, Smith MD. Troškovi, kvalitet i ishodi zdravstvene zaštite – ISPOR knjiga termina. ISPOR 2003. Prevod na srpski. Beograd: ISPOR Serbian chapter; 2012. ,
5. EUnetHTA. Methods for health economic evaluations - A guideline based on current practices in Europe, Guideline, 2015. Dostupno na: https://www.eunethta.eu/wp-content/uploads/2018/03/Methods_for_health_economic_evaluations.pdf

The total of active learning classes

Lectures: 30	**Practical classes:** 30
Research work: 15	**Other forms of teaching:** 15

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	

Seminars	10	

Other activities		

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Selected Chapters of Pharmacoepidemiology

Teachers: Marina M. Odalović, Ivana B. Tadić, Dragana M. Lakić

Course status: elective

Semester: II	**Year of studies:** I
ECTS points: 5	**Course code:** СФММИ7

Requirements: no

Course aims:

Acquiring knowledge about basic concept and principles in pharmacoepidemiology. Acquiring knowledge about sample selection, data sources, and methodological approaches in pharmacoepidemiology research. Acquiring knowledge and skills for critical evaluation of studies and data in pharmacoepidemiology. Acquiring knowledge and skills for implementation of pharmacoepidemiology in practice.

Course outcomes:

Understanding of basic concept and principles in pharmacoepidemiology. Understanding of sample selection, data sources, and methodological approaches in pharmacoepidemiology research. Capability for critical evaluation of studies and data in pharmacoepidemiology. Capability for for implementation of pharmacoepidemiology in practice.

Course contents:

Lectures

Pharmacoepidemiology – basic concept and principles. Basic principles of clinical epidemiology relevant for pharmacoepidemiology. Pharmacoepidemiology in healthcare system, pharmaceutical industry, regulatory bodies, and low.

Data sources in pharmacoepidemiology (spontaneous reporting, data bases, pharmacoepidemiology studies). Descriptive studies (ecological studies, case reports, case series, cross-sectional studies). Analytical studies (case-control studies, cohort studies). Causality measures in pharmacoepidemiology (absolute risk, relative risk, odds ration). Sample size in pharmacoepidemiology studies. Implementation of pharmacoepidemiology in practice (drug utilization studies and relevant measures (defined daily dose), evaluation and improvement of drug proscribing, risk management, pharmacoepidemiology and reimbursement policies).

Practical classes

Critical evaluation of pharmacoepidemiology studies with the focus on methods and published results. Design of pharmacoepidemiology studies. Calculation of risks in pharmacoepidemiology studies. Acquiring knowledge and skills for implementation of pharmacoepidemiology in practice. Drug utilization research by using of defined daily doses.

Recommended literature:

1. Strom BL. Pharamcoepidemiology, 5th Ed. Chichester: John Wiley & Sons; 2012.

2. Hartzema AG, Porta M, Tilson HH. Pharmacoepidemiology. Cincinnati: Harvey Whitney; 1998

3. Гледовић З, Јанковић С, Јаребински М, Марковић-Денић Љ, Пекмезовић Т, Шипетић-Грујичић С, Влајинац Х. У: Влајинац

The total of active learning classes

Lectures: 30	**Practical classes:** 30
Research work: 15	**Other forms of teaching:** 15

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discussion, homework, on-line forum.
Evaluation:

Grading system:

Exam prerequisites	Points	Final exam	P
Active participation in lectures	20	Practical	
Practical classes	20	Written	5
Colloquia		Oral	
Seminars	10		
Other activities			

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Negotiation and decision making in pharmacy

Teachers: Valentina D. Marinković, Krajnović M. Dušanka

Course status: elective

Semester: II	**Year of studies:** I
ECTS points: 5	**Course code:** СФММИ4

Requirements: no

Course aims:

Indroduction and aquiring of methods and techniques for efective negotiation in differnt business enviroment.Introduction of importance of decisons made DM in healthcare and pharmaceutical systems. Intoduction of decision making process in Health Technology assesment. Aquiring team work capability in decision making process. Identification of repercutions about decisons made on health and safety. Introduction of flow chart diagrams for decision in healthcare system, baased on practical examples.

Course outcomes:

Implementation of basic methods, tools and technics in process of negotiation, contracting and decision making; indroduction of decion making models in strategic, tactical and operating management levels; importance of decision on health and pharmaceutical sustainability.

Course contents:

Lectures

Processes, type and ways of negotiation in modern pharma enviroment. Planning and basic element in negotiation process (licence agrements, representative agreement, securecy agreement, supply agreement, comercial agreement, Technical agreement, quaity agreement). Decision making process. Teamwork in decision making process- share decision making. importance of decisons made in healthcare and pharmaceutical system. Social, phychology and economic aspects in DM process. Evaluation of decison made.

Practical classes

Study, analysis and discussion of practical examples in negotiation, contracting and decision making- role and responsibilities in teamwork; real healthcare and pharmaceutical system in Serbia. Preparation and review of different agreements. Comparison of diferent DM models; share decision making in relation on pharmacist - patient.

Recommended literature:

1. Тасић Љ, Маринковић В. Фармацеутски менаџмент и маркетинг. Београд: Фармацеутски факултет; 2018.
2. Тасић Љ, Крајновић Д, Одаловић М, Лакић Д, Тадић И.. Фармацеутска пракса. Београд: Фармацеутски факултет; 2018.
3. Чупић М, Туммала ВМР, Сукновић М. Одлучивање: формални приступ. Београд: Факултет организационих наука; 2001.

The total of active learning classes

Lectures: 30	**Practical classes:** 30
Research work: 15	**Other forms of teaching:** 15

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	
Seminars	10		
Other activities			

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical Management and Marketing

Course title: Social Marketing and New Public Health

Teachers: Dušanka M. Krajnović, Marinković D. Valentina

Course status: elective

Semester: II	**Year of studies:** I
ECTS points: 5	**Course code:** СФММИ8

Requirements: no

Course aims:

Introduction to basic principles, philosophy and politics of public health and the concept of the new public health. Mastering the methods of public-health research and design, monitoring and evaluation of public health programs and interventions. Introduction to the basic techniques of social marketing and ethical dilemmas that may appear.

Course outcomes:

The efficient design of the program of public - health campaigns (for example. to mark certain dates in the calendar of health, etc..); and management skills program implementation and evaluation of the Action Plan preventive health activities for a specific population / group.

Course contents:

Lectures

Philosophy and public health policy and the new public health. Evidence-based health care and public health. Health care according to levels of prevention and for specific population groups (women and children, actively working people, the elderly, the poor, the refugees, the Roma, people living with disabilities). Social impacts, behavior and health (culture, family, peers), social concept of health and illness, beliefs, attitudes, knowledge, behavior (relationship skills and behaviors), risky behavior at individual, group and population level. Communications and media and their role in public health policy. Health promotion and health education. Environments for health. Social marketing. Methods of public health research (qualitative and quantitative) and design, implementation, monitoring and evaluation of public health programs. Ethics in health promotion and social marketing.

Practical classes

Methods of exercises involving active analysis of case studies, participation in the creation and design of pilot projects and programs in the field of public health, with special reference to the contribution of pharmaceutical health system in designing and implementing health-education intervention and promotion programs, health and social marketing purposes.

Recommended literature:

1. WHO Regional Conference on the New European policy for Health-Health 2020. Health 2020 policy framework and strategy.Malta 2012.

2. Tasic Lj, Parojčić D, Bogavac-Stanojevic N, Ilic K, Jovic S, Kocic Pesic-V. Health promotion and disease prevention women in pharmacy practice. Belgrade: Faculty of Pharmacy University of Belgrade 2006.

3. Bradley P. Burls A.Ethics in Public and Community Health.New York: Routledge Taylor and Francis Group; 2000.

4. Bissell P, Traulsen J. Sociology and Pharmacy Practice. London: Pharmaceutical Press; 2005.

5. Coughlin Steven S, Soskolne Colin L, Goodman Kenneth W. Case Studies in Public Health Ethics. Washington: American Public Health Association;1997.

The total of active learning classes

Lectures: 30	**Practical classes:** 30
Research work: 15	**Other forms of teaching:** 15

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	
Practical classes	20	Written	50
Colloquia		Oral	
Seminars	10		
Other activities			

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Quality Management in Pharmacy

Teachers: Valentina D. Marinković, Odalović M. Marina

Course status: mandatory

Semester: II	**Year of studies:** I
ECTS points: 8	**Course code:** СФММО5

Requirements: no

Course aims:

Indroduction of quality management systems (QMS) philosophy. Understanding of importance about standardised management systems (SMS) and good practices (GxP) in pharmacy; Education and training about Integrated management systems (IMS). Introduction of basic tools in QMS and key performance indicatiors (KPIs) understanding.

Course outcomes:

Implementation of QMS methods and tools and quality improvement in pharmaceutical operations/activities. KPI monitoring in pharmacy services and pharmaceutical manufactory. Mapping, monitoring and evaluation of quality KPIs.

Course contents:

Lectures

QMS philosophy and quality system technology. Standardized quality management systems (SMS)-ISO 9001, ISO 22000, ISO 17025, ISO 13845 . Integrated management system about quality, ecology, health & safety. QMS in health industry - Donabedian philosophy. Certification and accreditation. Good manufacturing practice- Manufacturing License. Good Distribution practice- Distribution Licence. Comparative analisys of SMSs and GxP. Pharmaceutical Quality System- implementation of quality principles in all phases in medicines lifecycles. Facility, premices, equipment in pharma organisation. Key personnel- training system. Quality system documentation. Quality specifications. Calibration and maintenance (plans, contracts, deviations). Qualification and validation. Change control system. Deviation management- corrective and preventive actions. Continiouse improvement - tools and technics. Monitoring and evaluation of Pharmaceutical Quality system.

Practical classes

Study, analysis and discussion of practical examples in QMS. Comparative analysis of SMS, TQM, GxP and IT systems in pharma organisations examples. Consideration of quality indicators in pharmacy service. Indicators and monitoring of patient safety. Qualification and validation in pharma projects. Process maping. Performance evaluation in pharmaceutical companies (wholesale, manufactory).

Recommended literature:

1. Lee TH, Shiba S, Wood RC. Integrated management systems – A Practical Approach to Transforming Organizations. New York: John Wiley & Sons Inc ; 1999.
2. Тасић Љ, Маринковић В. Квалитет у фармацији-од терорије до праксе. Београд: Фармацеутски факултет; 2012.
3. Тасић Љ, Маринковић В. Фармацеутски менаџмент и маркетинг. Београд: Фармацеутски факултет; 2018.
4. Hedley R. Supply chain management in the drug industry - Delivery Patient Value for Pharmaceutical and Biologics. New Jersey: John Wiley & Sons; 2011.
5. Филиповић Ј. Менаџмент система квалитета. Београд: ФОН; 2008.

The total of active learning classes

Lectures: 35	**Practical classes:** 40
Research work: 10	**Other forms of teaching:** 30

Teaching methods:

Lectures (ex catedra) practice: case studies, workshops, panel discustion, home work, on-line forum. Evaluation: writen exam- final test and oral pratical exam.

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	20	Practical	

Practical classes	20	Written	50
Colloquia		Oral	
Seminars	10		
Other activities			

University of Belgrade Faculty of Pharmacy	Specialized Academic Studies **PHARMACEUTICAL MANAGEMENT AND MARKETING**	

Study programme: Pharmaceutical management and marketing

Course title: Final work

Teachers:

Course status:

Semester: II	**Year of studies:** I
ECTS points: 15	**Course code:** СФММЗР

Requirements: all modules according to plan and programm

Course aims:

Master thesis should include all knowledge acquired during the studies and present the practical application of knowledge in studies of work process - pharmaceutical management, pharmaceutical marketing, information technology in pharmacy, quality in pharmacy

Course outcomes:

The practical application of the knowledge in studies of working processes and making recommendations for the improvement of working practices in certain areas of pharmaceutical management and marketing.

Course contents:

Lectures

As part of the final work is the students research in which he introduces the methodology of research in the field of pharmaceutical management and marketing. Before research, student has to defend thesis concept paper.

After research conducting student prepares a final paper in the form of specialist work that contains the following chapters: Introduction, Theoretical part, Experimental part, Results, Discussion, Conclusion and Review of the literature.

After completing work student access to the public defense of thesis - oral specialist examination bellow of the commission.

Practical classes

Recommended literature:

The total of active learning classes

Lectures: 0	**Practical classes:** 0
Research work: 0	**Other forms of teaching:** 0

Teaching methods:

-

Grading system:

Exam prerequisites	Points	Final exam	Points
Active participation in lectures	0	Practical	
Practical classes	0	Written	0
Colloquia		Oral	100
Seminars	0		
Other activities			