Health Policy Planning and Financing MSc

Module Descriptions

1. **Basic economics** (full-time / part-time)

   The course presents micro and macroeconomics theory and applications at an intermediate level. Students will learn core issues like scarcity, choice (of resources), behaviour; understanding of the contexts of processes, concerns the cognition of the methods of the economic analysis during a model creation. They deal with market structures and its mechanisms, learn deviations due to externalities, apply this material to policy debates including minimum wage regulations, food stamp provision, trade protection, educational credentials, health insurance markets, and real estate markets. Furthermore, they examine the classic macroeconomic issues like growth, inflation, unemployment, technological progress, budget deficits. Monetary and fiscal policies, on the aggregate behaviour of individuals, reveal how current policy initiatives affect macroeconomic performance. Throughout the course students will be introduced to basic statistical methods for analysing economic growth and structural change such as concentration analysis, standardisation, index numbers and univariate time series analysis.

   After this course students should be able to perform an evaluation of the economic effect of a certain policy, including the role of incentives and trade-offs in the mechanism. They should be able to discuss the role of the market and the regulator and describe how changes in a certain market fit into the whole system of the economy.

2. **Introduction to health economics** (full-time / part-time)

   Students learn the basic terms to understand health economic principles, including economic mechanisms, market failures and equity aspects of health care financing and delivery, and micro and macroeconomic factors of health expenditure. Analysis of demand and supply factors of health care expenditure, and methods of sustainable health care financing is also addressed within the course.

   Main themes covered are

   - basic terms of health economics,
   - the University of York classification of health economics,
   - features of health care and health insurance market
   - analyses of market and government failures
   - equity and allocation efficiency in health care
   - analysis of health care expenditure
   - driving forces of growth in health care expenditure and basic cost-containment measures
   - health, health care and economy

3. **Introduction to health policy** (full-time / part-time)

The purpose of this course is to enable students for (i) the analysis of health systems and their performance and (ii) the evaluation of possible strategies and tools of health system reforms, as well as factors influencing the health policy process.
The first part of the course introduces key concepts of health systems analysis and performance measurement; including health system objectives, functions, actors and organisational structures. The second part of the course discusses the main health policy trends in the past four or five decades and analyses possible strategies and tools aimed at achieving key health policy goals. The course also discusses the key issues of realizing health system reforms.
The course puts a great emphasis on the team-work and presentations by the students.

4. **Health law and ethics** (full-time / part-time)

The main objective of the course is to provide all students an overview about health law and ethics. We do not focus on the concrete legal rules of any jurisdiction but on the most important models, examples and the logic of the legal regulation. We provide the students an insight into the core problems of every topic we discuss in the semester.
Most of the classes will be separated into two parts. The first one will be a “classical lecture” when the students can obtain all necessary information about the topic. The second one will be an organized debate when one of the interesting problems connected to the topic is discussed with the participation of all students. The students can learn with the help of this method to express their opinion about legal and ethical questions.
During the semester we keep the right balance between health law (including public and private law) and health ethics.

The main topics are the following:

- The basic concepts of law and ethics
- Health law systems of European and other countries in a legal perspective
- Public health law and public health care services
- Private health law and private health care services
- Pharmaceutical law including intellectual property rights
- Responsibility in health care
- Patients' rights and obligations
- Data protection in health care
- Ethical issues in public health and clinical care (focusing on equal treatment)
- Abortion and euthanasia
- IVF and Surrogacy
- Ethical issues in tissue and organ transplantation
- Ethical issues in clinical research

5. **Public health** (full-time / part-time)

This course gives an introduction to public health, clinical and preventive medicine to students. By the end of the course the participants will be familiar with the basic medical knowledge related to major diseases and will be able to critically analyse and summarise original scientific

and political documents of public health. Major public health data sources will be utilised for analyses.

Topics:

- general medical knowledge & terminology;
- metabolic and endocrine disorders;
- cardiovascular disorders;
- gastrointestinal disorders;
- infections and vaccines;
- tumours;
- kidney disorders;
- psychiatric and neurological disorders;
- respiratory diseases;
- the scope of modern public health;
- the public health cycle, setting public health priorities, essential public health functions;
- analysis of aggregate health statistics, describing the health of a population;
- international public health data sources;
- the conceptual basis of health promotion and preventive medicine;
- global health;
- health inequalities;
- lifestyle and health;
- environment and health;
- international public health policies of the 21st century.

6. **Basic Statistics** (full-time)

The course covers the basic statistical methods with an emphasis on concepts and application in medical sciences and economics rather than on the in-depth coverage of traditional statistical methods. The freeware R commander is introduced to aid to carry out the statistical computations. In the full-time program the course is integrated with the course on basic epidemiology to support the connection between study design and analysis.

Topics include:

- introduction to R, R Studio and R commander
- types of variables, levels of measurement,
- basic data operations,
- measures of central tendency and variability,
- graphic presentation of the sample distribution,
- interval estimation,
- basics of hypothesis testing,
- types of errors, power calculation
- one-sample/two-sample/paired t-test,
- ANOVA,
- proportion tests, chi2 test,

- non-parametric tests,
- crude analysis of 2x2 tables from cohort and case-control studies,
- Kaplan-Meier analysis.

Each method is introduced by examples from the scientific literature. Applicability of each method, checking model assumptions and interpretation of the results are covered in the lectures. Each analysis is performed by the participants during the seminars.

7. Basic Statistics (part-time)

The course covers the basic statistical methods with an emphasis on concepts and application in medical sciences and economics rather than on the in-depth coverage of traditional statistical methods. Stata 13.0 is introduced to aid to carry out the statistical computations.

Topics include:

- types of variables, levels of measurement,
- basic data operations, log file in Stata,
- measures of central tendency and variability,
- graphic presentation of the sample distribution,
- interval estimation,
- basics of hypothesis testing,
- types of errors, power calculation,
- one-sample/two-sample/paired t-test,
- ANOVA,
- proportion tests, chi2 test,
- crude analysis of 2x2 tables from cohort and case-control studies.

Each method is introduced by examples from the scientific literature. Applicability of each method, checking model assumptions and interpretation of the results are covered in the lectures.

By the end of the course participants will be able to use a professional statistical software, present data, perform univariate statistical analysis, and interpret correctly results of statistical inference (confidence intervals and p-values).

8. Epidemiology (full-time / part-time)

The aim of the subject is to provide basic concepts and methods of epidemiology and necessary knowledge to judge the validity of an epidemiological study and to interpret its results. By the end of the course students will be able to judge the relevance and validity of epidemiological studies and will be able to utilize their results in health economic modelling and health policy making. In the full-time program the course is integrated in the full-time program with the course on basic statistics to support the connection between study design and analysis. Problem-based learning teaching method is used throughout the course. All theoretical

concepts is introduced via examples from the scientific literature and from exercises in seminars. The participants are actively involved, they explore the theory of epidemiology with the tutorship of the course leader.

The course covers the following topics:

- the role of epidemiology in health policy and health economics;
- occurrence and association measures;
- classification of epidemiological studies,
- descriptive and analytical etiological studies;
- assuring internal validity: preventing bias and controlling for confounding;
- external validity and precision;
- modern diagnostic functions;
- prognostic models;
- interventional research.

9. **Principles of health economic evaluation** (full-time / part-time)

Students should be familiar with the basic terms of economic evaluations. They learn the main types of economic evaluations, the major steps of conducting economic evaluations. They will be familiarised with the applicability of economic evaluation and health technology assessment to improve the allocative efficiency of health care systems.

Main themes:

- applicability of economic evaluations in evidence based health policy
- classification of economic evaluations
- cost-minimization and cost-effectiveness analysis
- cost-utility analysis
- cost-benefit analysis
- budget impact analysis
- steps of economic evaluation
- selection of comparator
- measurement of health gain
- measurement of costs
- discounting
- decision rules
- sensitivity analysis
- critical appraisal of economic evaluations
- major types of economic modelling

10. **Health policy in the European Union** (full-time / part-time)

The purpose of this course is to introduce students to the history of European integration, the EU's basic principles and institutions, the operation of its institutional system, the legislative

framework and the EU's decision making mechanisms; to explore the position and the complex role of health, its relation to other sector policies in the EU as well as the fundamental health policy issues and their EU dimension; to discuss the implications of global challenges; to analyse and understand the impacts of different EU-level sector policies on health as well as the influence of certain EU-level health policy initiatives on national health systems; and to provide an overview of and an insight to main EU-level processes, current challenges and opportunities in the field of health.

The course covers the following main topics:

- the history of European integration, main principles, the institutional system of the European Union and its operation
- the EU-level decision-making process; Union policies and legislation, primary and secondary law
- EU dimension of health: health in the EU treaties and in other Union level sources
- patient mobility in the EU
- cross-border health care services in the EU
- free movement of health professionals and its impact
- EU Health Programmes earlier and nowadays
- main Union-level processes in the field of health, health policy

11. Health Financing (full-time / part-time)

The aim of the course is to widen the students' knowledge on health system financing; provide the theoretical basis for analysing provider-payment methods; and discuss the international and Hungarian experiences with provider-payment methods.

The course covers the following topics: Purchasing of health services (provider-payment methods): theoretical basis; Purchasing of health services (provider-payment methods): international experiences; Provider-payment methods in the Hungarian health system; Theoretical principles and international experiences of defining the health benefit basket; Voluntary health insurance; Basic issues in health expenditure analysis

12. Introduction to health services organisation (full-time / part-time)

Students should learn basic terms of health services organization. Be aware of different types and levels of care and their most important characteristics. Analysis of trends in the organization development of health services and case studies.

The course is composed of three major parts (I-II-III) there are the overview of health systems characteristics (key actors and authorities, ownership type, funding options and basic packages), organization of typical health services (eg. primary care, long-term care). Different levels and type of care and other topics like integration of services, patient path management and connecting issues of quality assurance.

- Regulation of health services and basic packages
- Funding and reimbursement mechanisms
- Strategic purchasing of Health Insurance Funds

- Analyses of different service levels, provision of care
- Studying integrated care and long-term care (LTC) models
- Organization of patient pathways and quality improvement

13. **Planning and management of public health projects** (full-time / part-time)

The purpose of this course is to introduce students the methodology and practice of project planning and management in public health projects and health economic projects.

The course covers the project cycle from project identification through design to implementation including suitable models and techniques for capacity assessment, stakeholder analysis, problem analysis, intervention strategies, logical frameworks, assumptions and risks, performance indicators, action planning, scheduling and budgeting.

The students will learn how to work in project teams, what kind of challenges they can face as project leaders. Project management topics include setting up the frames and structures of implementation, preparation of implementation plans at various levels, risk management techniques, financial management, reporting, daily project management techniques as well as some basic change management skills.

The method of teaching is expressly practice oriented and interactive. At the beginning of the course small teams consisting of 3-5 students are formed. After introducing the models and techniques the teams apply them on simple tasks under guidance of the lecturer and present their work.

14. **Corporate economics** (full-time / part-time)

The purpose of this course is to introduce students to the following concepts: concept of business, enterprises, ownership and leadership, management, forms of enterprises; net present value, opportunity cost of capital; investment decisions; risk, yield, maximising present value, economic and accounting profitability; financing decisions; market effectiveness; financing enterprises; financial analysis and planning; financial management.

15. **Information technology in health research** (full-time / part-time)

The course covers advanced data storage, management (spreadsheets) software for health care research.

Topics include:

- types of data storage,
- spreadsheets as a data storage,
- working with data
    - cells, rows, ranges, sheets, workbooks
    - formatting cells, ranges, tables
    - built in styles, custom number formats
    - using basic functions, string, mathematical, statistical etc.
    - visualisation, creating, modifying graphs

    - inserting pictures and other objects
    - advanced functions
    - data validation, data protection
    - data analysing
        - solver
        - goal seeking
        - Pivot tables
    - linking workbooks, external linking
- programming Excel with VBA
    - creating custom functions
    - using macros
    - user forms, user controls
- collecting data from other data sources
    - internet, text, xml file
    - sql databases
        - sql queries

Each topic is introduced by practical examples. Students perform exercises by a spreadsheet related software to all topics.

16. **Statistical methods in health care analyses** (full-time)

The course covers advanced statistical methods for health care research. The course is applied in the sense that is focused on estimating models and interpreting the results, rather than understanding the detailed mathematics behind the methods. R commander is used to perform the analyses.

Topics include:

- simple and multiple linear regression
- model development
- assessment of goodness-of-fit
- logistic regression
- logistic regression in case-control studies,
- logistic regression for prediction
- validation of diagnostic functions
- Poisson-regression
- parametric survival models
- Cox-regression

Each method is introduced by examples from the scientific literature. Applicability of each method, model assumptions, checking model assumptions, and interpretation of the results are covered in the lectures. Students perform exercises by R commander related to all topics.

17. **Statistical methods in health care analyses** (part-time)

The course covers advanced statistical methods for health care research. The course is applied in the sense that is focused on estimating models and interpreting the results, rather than understanding the detailed mathematics behind the methods. Stata 13.0 is used to perform the analyses.

Topics include:

- simple and multiple linear regression
- model development
- assessment of goodness-of-fit
- logistic regression
- logistic regression in case-control studies
- logistic regression for prediction
- validation of diagnostic functions
- bivariate survival analysis
- Cox-regression
- direct and indirect standardization
- Poisson-regression

Each method is introduced by examples from the scientific literature. Applicability of each method, model assumptions, checking model assumptions, and interpretation of the results are covered in the lectures. Students perform exercises by STATA related to all topics.

18. Methodology of economic modelling in health care (1) (full-time / part-time)

Students are familiarised with applying basic economic evaluation techniques for health care decision analysis. Economic models related to common reimbursement questions are developed in MS Excel spreadsheets. Students are studying to design, develop and interpret economic models, including methods to handle uncertainty in decisions.

Main themes:

- decision tree model (payer perspective);
- decision tree model (employer perspective);
- discounting (decision tree model);
- Markov models (acute vs. chronic care - inflammatory disease; oncology, dialysis);
- conditional reimbursement (Markov model);
- model validation;
- budget impact model;
- modelling techniques;
- process of model development;
- deterministic sensitivity analysis.

19. Methodology of economic modelling in health care (2) (full-time / part-time)

Students are familiarised with applying basic economic evaluation techniques for health care decision analysis, with special focus on investment decisions. Economic models related to common public investment questions are developed in MS Excel spreadsheets. Students are studying to design, develop and interpret economic models, including methods to handle uncertainty in decisions.

Main themes:

- strategic pricing of health care technologies (inflammatory disease, Markov model; perspective of private investor)
- go-no decision in R&D decisions (inflammatory and oncology, NPV analysis)
- personalized medicine (molecular diagnostics)
- public health programmes (cervical cancer screening programme; Markov model)
- cost-benefit analysis of investment into organ donation
- investment decision into hi-tech hospital technology (oncology; Markov model)
- strategies to improve hospital drug management
- cost-benefit analysis of hospital development
- probabilistic sensitivity analysis
- simulation models (Markov, Discrete Event)
- risk sharing models.

20. Measurement of Patient Reported Outcomes (full-time / part-time)

Students are familiarised with the basic terms of patient reported outcomes (e.g. health outcomes, patient reported outcomes, patient adherence, quality of life, health related quality of life) and their relevance and applicability in economic evaluations (utility and quality adjusted life years, disability adjusted life years). They also learn the steps of patient reported outcome measurement from choosing the appropriate instrument to the translation of these results to economic value. They get acquainted with the psychometric basics of designing, adapting and validating such patient reported outcome measures. They will understand the applicability of patient reported outcomes in the use of full health economic evaluations (cost utility analyses and measuring health burden) and will also have a full understanding of their potential limitations.

Main themes:

- health outcomes
- patient reported outcomes (PROs)
- development and adaptation of PRO measures
- further PRO terms: patient adherence and patient satisfaction
- quality of life (QoL) and health related quality of life (HRQoL)
- classification of HRQoL measures
- utility, direct and indirect utility measures, utility mapping, transferability
- PROs in decision making: quality adjusted life years (QALY), disability adjusted life years (DALY), limitations of the concepts
- measurement PROs in special patient groups (children)

21. Financing health technologies

The purpose of this course is to discuss the rationale, methodologies and conceptual frameworks for the public financing of health technologies, together with their applicability, advantages and limitations. This includes reimbursement frameworks for outpatient and hospital pharmaceuticals, as well as various financing methods for medical devices and medical aids.

Main themes:

- financing health technologies: transparency directive
- overview of reimbursement systems and techniques
- overview pharmaceutical cost containment techniques
- risk sharing techniques: theory and practice
- introducing principles of external price referencing as an effective tool for price regulation of innovative drugs
- good policy practices in the off-patent sector: the case of small molecule drugs
- biosimilar drug policies: increased risk for improved patient access?
- methods for the financing of inpatient (hospital) medical technologies
- financing pharmaceutical research and development (preclinical and clinical phase)
- financing wholesalers and pharmacies
- characteristics of health technology markets, the need for public financing
- reimbursement, public financing, public funding: key notions and definitions
- reimbursement policy: goals, methods, requirements
- reimbursement systems: stakeholders, goals, motivations
- overview and characterization of pharmaceutical reimbursement techniques: price regulation, reimbursement (co-payment) regulation, volume regulation
- managing list prices and effective payer prices through price regulation
- establishing fair and sustainable co-payment systems
- regulating pharmaceutical consumption and the volume mix

22. Health technology assessment (full-time)

Health technology assessment (HTA) is a multidisciplinary field of policy analysis; which studies the medical, social, ethical and economic implications of the development, diffusion and use of health technologies.

Students should be familiar with how HTA should be prepared and applied in the decision-making process in countries with both established and less developed HTA systems. They have to understand specific methodologies for evidence generation (such as systematic literature review) or multicriteria decision analysis. Implementation of HTA is more complex for special technologies such as medical devices, preventive medicine or orphan drugs, so students have to familiar with challenges and potential solutions.

Main themes:

- Components of HTA
- HTA practices in major Western European countries
- International collaboration of HTA agencies - The example of EUnetHTA
- HTA implementation in lower income countries
- Transferability of HTA
- Evidence synthesis / systematic literature review
- Collection of local data
- Multicriteria decision analysis
- Critical appraisal of health technology assessment
- HTA of special technologies: medical devices and diagnostics
- HTA of technologies in rare diseases
- HTA of preventive medicine

23. Health technology assessment (part-time)

Health technology assessment (HTA) is a multidisciplinary process that summarises information about the medical, social, economic and ethical issues related to the use of a health technology in a systematic, transparent, unbiased, robust manner. Its aim is to inform the formulation of safe, effective, health policies that are patient focused and seek to achieve best value. Students are familiarised with how HTA should be prepared and applied in the decision-making process.

Main themes:

- components of HTA,
- settings of HTA (national vs international, single vs double),
- multicriteria decision analysis,
- implementation of HTA in middle income countries,
- HTA of pharmaceuticals,
- HTA of non-pharmaceutical technologies (diagnostics, hospital technologies, etc.).

24. Principles of pharmaceutical policy

No description yet.

25. Market access and marketing (full-time / part-time)

The course aims to provide a complex assessment of the challenges of the pharma industry. The rapid development of health care system solutions, the increasing need to improve efficiency provided a new world for pharma. The changing environment required repositioning of marketing; rethink its role, influence and methodology within the operations of the industry. The key customer groups had been changed, moreover their preferences rapidly evolve. Key customers consider health technologies from the perspective of the total health services while the industry looks on the health care system through the lens of drugs. The course aims to represent how these perspectives can meet. That challenge, although in different ways, is present both in innovative and generic marketing. The answers certainly are different, as the

business models are different. In both cases we explore how the environment influences the business models, and the approach of marketing to deal with it.
There is a need to put special focus on some key areas, which highly interconnected with marketing: market access and strategic pricing. The current environment more than ever requires a complex approach to drug development and commercialization. Medical knowledge, health technologies, marketing, all strongly interconnected to ensure successful commercialization. Strategic pricing is a key element of it, requiring broad and special knowledge.
To complete the journey in pharmaceuticals the course assesses the key challenges of the distribution channels and the position of pharmacies. Both territories are interdependent of the pharma sector and health care developments.

Main themes:

- pricing imperatives of health technologies
- strategic pricing of innovative pharmaceuticals
- value based pricing vs reference pricing
- marketing armamentarium of health technologies
- life cycle management of pharmaceuticals
- evolving approaches for customer facing activities
- challenges of the distribution channel
- role of pharmacies in the health care system – selling drugs or selling service,
- ethics of marketing communication

26. Thesis seminar (1) (full-time / part-time)

This course gives an extra help to students preparing their thesis besides the tutorship of their supervisors. The course starts with a discussion on how to write a good thesis. The rest of the course consists of presentations and discussions of each student's own work as he/she is proceeding. Each work is discussed at least three times, research topic, objectives and methods.

27. Thesis seminar (2) (full-time / part-time)

This course gives an extra help to students preparing their thesis besides the tutorship of their supervisors. The course starts with a discussion on how to write a good thesis. The rest of the course consists of presentations and discussions of each student's own work as he/she is proceeding. Each work is discussed at least three times, research topic, objectives and methods.

28. Sociology of health (full-time / part-time)

The course focuses on the social causes and consequences of illness and disease. It introduces the basic concepts of sociology and covers the major themes of the field of sociology of health. The course makes participant enable to find, read and understand literature of the field in case

of need in the future by reading and debating related articles. Participant finally will be able to form standpoints different from their own one and contrast (professional and lay) opinions about topical health issues.

Themes:

- mortality, illness and healing in a historical perspective
- social inequalities in mortality and health
- explaining inequalities in health and mortality
- health disparities
- ageing
- patients and patients' groups
- profession in health care, professional socialization
- medicalization and the boundaries of medicine
- sociological analysis of public health interventions

29. **Meta-analysis** (full-time / part-time)

The course covers all major topics in quantitative synthesis of scientific evidence. The course is applied in the sense that is focused on estimating models and interpreting the results, rather than understanding the detailed mathematics behind the methods. MetaXL and NetMeatXL is used to perform the analyses.

Topics include:

- searching for evidence
- evaluating the quality of original studies
- choosing the right effect measure
- assessing heterogeneity
- fixed-effect meta-analysis
- random-effect meta-analysis,
- publication bias
- meta-regression
- network meta-analysis
- consistency

30. **Measurement of health system performance** (full-time / part-time)

The purpose of this course is to discuss key conceptual frameworks for and international and Hungarian experience in the measuring of health system's performance.

Themes

- conceptual frameworks for measurement of health system performance
- dimensions of performance: health outcome, equity in health and access to health care, responsiveness of health system, quality, efficiency, financial protection, sustainable financing

- performance indicator systems of WHO, OECD, and the EuropeanUunion
- measurement of health system performance in selected countries (US, Canada, and Great-Britain)
- potentials and problems of the utilization of indicator systems for monitoring and managing performance

31. Regional planning and coordination of care (full-time / part-time)

The course intruduces students to the ever increasing problem of fragmentation in health care, its consequences on health system performance, and the possible institutional solutions. Lack of coordinated care is the most emphasised in case of chronic care – patients with multiple and long lasting health problems. As the proportion of elderly population, hence the prevalence of chronic diseases and co-morbidities increases, the issue of coordinated care becomes more and more important in every health system.

32. Human resources management in health care (full-time / part-time)

Aim of the course:

- to introduce the significance and main elements of HR management
- to reveal the importance of human resources in providing quality health care
- to understand the role of HR in strategic planning
- to accept the main roots of the human resource crisis

At the end of the course students will be able:

- to analyse HR data of health care
- to understand the role of the European accession and of globalization on the movement and migration of health workers
- to analyse the impact of the specialities of the health provider system on human resources
- to critically analyse the governmental and institutional HR strategies in health care in selected countries
- to utilize a comprehensive and thorough grasp of the most significant EU laws and regulations governing the employment and training of healthcare workers

33. Quality improvement in healthcare (full-time / part-time)

The purpose of this course is to introduce students to the main problems of quality improvements in health care. The course will provide an overview of the history of quality assurance, and of the main management systems. One of the main emphasis of the course is focusing on the legal aspects of quality, the linkage between patient's rights, and patient safety and quality.

By the end of the course, students will

- understand the importance of quality management in health care
- be familiar with and be able to utilize the basic concepts in quality management
- be familiar with the effect of patient's rights on the quality of healthcare
- understand the link between patient safety and quality
- be familiar with the methods for assessing quality and the importance of quality management in healthcare
- be able to utilize the most widespread quality management tools
- know about the connections between quality and economy
- be familiar with the international regulation tools of quality
- be aware of the possible consequences of unwanted events and risks in healthcare, as well as methods for assessing and preventing them

34. Strategic planning and management in health care organisations (full-time / part-time)

The objectives of the course:

- To understand the main schools and theories of strategic plan;
- Present and practice the strategic planning process;
- To make capable the students to plan anddevelop intermediate term strategic plan of health care organization;
- To develop indicators and to monitor the implementation of strategic plan;
- To be able to analyse case studies of strategic planning;
- To be able to plan and execute organizational changes for the succesfull implementation of strategic plan.

Main topics of the course:

- Brief history of the strategic management
- Main schools and theories of strategic management
- The main steps of strategic planning process
- Analysis of ovearall, specific and inner strategic environmental factors of health care organizations
- PESTEL and SWOT analysis in pracitce
- Mission statements, strategic vision and objectives map
- Indicators to measure the development of strategic plan
- Action planning for effective implementation of organizational strategy

35. Optimization and game theory for decision making (full-time / part-time)

The course provides a brief introduction to the theory of decision making, emphasizing its mathematical foundations. We go through the basic concepts, relevant problems and methods of optimization and game theory, most of which are related to decision making. Mostly we deal with social and economical examples.

The course covers the following topics:

- Linear equations, inequalities, convex sets, polytopes
- Modeling, linear programming,
- Graphical LP solution
- The Simplex method
- Sensitivity analysis
- Relations between primal and dual problems
- Integer programming
- Transportation and assignment problems,
- Facility location problems
- Sequencing problems
- Queuing theory
- Cooperative games
- Combinatorial games
- Non-cooperative games
- Fuzzy logic in decision making
- Minimax theorem, Nash equilibrium
- Uncertainty and risk situations
- Decision trees,
- Markov decision process

36. Önkéntes biztosítás az egészségügyben *(available only in Hungarian)* (full-time / part-time)

Az „Önkéntes biztosítás az egészségügyben" tantárgy célja: az „Egészségpolitika tervezés és finanszírozás mesterképzés szak" hallgatói számára, az egészségügy finanszírozási rendszerek köréből a magánfinanszírozási rendszerek, különösen a köz és magánfinanszírozás együttműködése lehetőségeire, valamint a magánbiztosításra és az egészségpénztárra vonatkozó elméleti ismeretek megalapozása.

Fő elemek:

- a köz- és a magánfinanszírozás szerepének alakulása az életpálya során fellépő és változó egészségi kockázatok kezelése pénzügyi feltételeinek biztosításában
- a közfinanszírozás – ezen belül elsődlegesen a társadalombiztosítás – és a magánfinanszírozás (funkciók és szerepek összehasonlítása)
- az egészségi, illetve az egészségügyi célú magánkiadásokkal foglalkozó pénzügyi intézmények köréből az egészségpénztár és a biztosító működésének megismerése
- az egészségi kockázatok kezelése a biztosításban, az egészségbiztosítás, illetve a baleset- és betegségbiztosítás
- a biztosítási módszerek, biztosítási szolgáltatások és a jellegzetes termékek bemutatása, alkalmazásuk elemzése.

37. Pénzügyi és számviteli ismeretek *(available only in Hungarian)* (full-time / part-time)

A tantárgy célja az egészségügyi szolgáltatás pénzügyi és számviteli rendszerére, az ebben közreműködő gazdálkodókra érvényes alapvető követelmények, szabályok megismertetése és feldolgozása; a pénzügyi és számviteli információk - különösen az egészségügyi ellátást nyújtó szervezetek beszámolói - értékelésének és hasznosításának megalapozása.

A tantárgy átfogja az egészségügyi szolgáltatók (költségvetési szervek, nonprofit szervezetek, vállalkozások) pénzügyi tervezésével és gazdálkodásával kapcsolatos feladatokat, beleértve a szakmai és pénzügyi teljesítmények komplex értékelésének feltételeit és módszereit.

A számvitel alapjainak tárgyalása a törvényi, jogszabályi háttér bemutatása mellett nagy hangsúlyt helyez a zömmel költségvetési szervként működő egészségügyi szolgáltatók sajátosságaira. Ennek keretében a hallgatók áttekintik a számviteli alapelveket, a könyvvezetési kötelezettség teljesítésének követelményeit, a számviteli munka belső szabályozásának feladatait. Korszerű, eredményszemléletű megközelítésben tartalmazza a tananyag a számvitel egészségügyi szolgáltatókra is érvényes alapvető kategóriáit, kitérve az ágazati vonásokra is.

A pénzügyi számvitel ismeretanyaga a beszámolási kötelezettségre fókuszál, különös tekintettel a költségvetési beszámolók szerkezetére, tartalmára, illetve azok megalapozottságának biztosítására, valamint a beszámolókból nyerhető információk hasznosításának lehetőségeire.

A képzésben megkülönböztetett szerep jut a döntéseket megalapozó vezetői számvitelnek, amelynek tárgyalására a belső kontrollokkal összefüggésben kerül sor.

A tananyag feldolgozás alapján a hallgatók képessé válnak az egészségügyi szolgáltatásokra vonatkozó pénzügyi és számviteli információk értelmezésére, elemzésére, mindezek felhasználására napi munkájuk, döntéseik során, illetve bővíthetik az e területen korábban szerzett ismereteiket.

38. Strategic pricing and marketing of health technologies (full-time / part-time)

The course aims to provide a complex assessment of the challenges of the pharma industry. The rapid development of health care system solutions, the increasing need to improve efficiency provided a new world for pharma. The changing environment required repositioning of marketing; rethink its role, influence and methodology within the operations of the industry. The key customer groups had been changed, moreover their preferences rapidly evolve. Key customers consider health technologies from the perspective of the total health services while the industry looks on the health care system through the lens of drugs. The course aims to represent how these perspectives can meet. That challenge, although in different ways, is present both in innovative and generic marketing. The answers certainly are different, as the business models are different. In both cases we explore how the environment influences the business models, and the approach of marketing to deal with it.

There is a need to put special focus on some key areas, which highly interconnected with marketing: market access and strategic pricing. The current environment more than ever requires a complex approach to drug development and commercialization. Medical knowledge, health technologies, marketing, all strongly interconnected to ensure successful commercialization. Strategic pricing is a key element of it, requiring broad and special knowledge.

To complete the journey in pharmaceuticals the course assesses the key challenges of the distribution channels and the position of pharmacies. Both territories are interdependent of the pharma sector and health care developments.

Main themes:

- pricing imperatives of health technologies
- strategic pricing of innovative pharmaceuticals
- value based pricing vs reference pricing
- marketing armamentarium of health technologies
- life cycle management of pharmaceuticals
- evolving approaches for customer facing activities
- challenges of the distribution channel
- role of pharmacies in the health care system – selling drugs or selling service
- ethics of marketing communication