



Sarajevo School of
Science and Technology



M A S T E R S T U D I E S

HEALTH ECONOMICS and PHARMACO-ECONOMICS



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Dean Sarajevo Medical School - University SSST

Sarajevo Medical School at SSST University was established in the 2014/2015 academic year as the first private medical school in the region. From its inception, the School has been equipped with state-of-the-art laboratories, advanced digital learning platforms, and a strong emphasis on engaging experienced practitioners in the teaching process. This combination has enabled us to rapidly achieve a high level of competitiveness and recognition.

As one of the fastest-growing units within the University, and in response to evolving healthcare and market needs, Sarajevo Medical School has expanded its academic portfolio to include programmes in dentistry, pharmacy, and health studies. Our students undertake clinical training and internships in leading public healthcare institutions across Bosnia and Herzegovina, as well as in reputable private clinics. The curricula are aligned with global trends in medicine, dentistry and pharmacy, ensuring that our programmes remain comparable with those offered by leading European medical schools.

A distinctive feature of our undergraduate programmes is their alignment with international standards, enabling students to prepare for and sit the United States Medical Licensing Examination (USMLE). This provides significant added value, opening pathways for international clinical training and career opportunities worldwide.

In addition to undergraduate education, the School offers doctoral (PhD) programmes in Clinical Medical Sciences and Biomedicine, further strengthening its academic and research capacity.

*Responding to the growing complexity of healthcare systems, resource allocation challenges, and the increasing importance of value-based decision-making, Sarajevo Medical School has launched **Master Studies in Health Economics and Pharmacoeconomics**.*

This programme is designed to equip graduates with advanced analytical, economic, and policy-oriented competencies required to support sustainable healthcare systems and informed decision-making in both public and private sectors.

The development of this Master Studies in Health Economics and Pharmacoeconomics is rooted in extensive professional experience within the pharmaceutical industry, combined with a longstanding commitment to advancing education in this field. The programme was conceived to provide a comprehensive understanding of the fundamental principles of pharmacoeconomics, particularly within the context of health technology assessment (HTA) and evidence-based decision-making.

Continuous engagement with key stakeholders—ranging from healthcare professionals and industry experts to policymakers—alongside practical experience in improving patient access to therapies, has highlighted the critical need for formally trained experts in health economics and pharmacoeconomics. These combined experiences and insights have directly informed the creation of this programme, which aims to equip future professionals with the knowledge and skills necessary to support sustainable healthcare systems and improve access to effective and innovative treatments.



Assoc. Prof. **Tarik ČATIĆ**, PhD Pharm
Program coordinator

A major barrier to the wider application of pharmacoeconomic principles in healthcare systems has been the lack of accessible, high-quality education and formal training—particularly in Bosnia and Herzegovina and the region.

To address this gap, Sarajevo Medical School at SSST introduced foundational teaching in health economics and pharmacoeconomics within its undergraduate programmes. Building on strong interest from both students and professionals, the University has launched the first Master's Programme in Health Economics and Pharmacoeconomics in Bosnia and Herzegovina and the region.

The programme offers a modern, practice-oriented curriculum delivered by leading experts from academia and industry, equipping graduates with the knowledge and skills required for informed decision-making and sustainable healthcare development.

Health Technology Assessment – beginnings and future trends

Health Technology Assessment (HTA) appeared as a concept in the year 1976, when the Office for Technology Assessment of the United States of America (OTA) published its first report on this subject.

HTA began spreading to the rest of the world in the 1980s, after the formation of the Swedish Council for Technology Assessment in Healthcare (SBU). During the next two decades, HTA spread to almost all European countries, then to some of the richer countries in Central Europe, Latin America and Asia.

Those who worked in the field of HTA understood early that HTA had an international character.

As national programs began appearing, a need for communication and cooperation at an agency level was recognized. Several international meetings lead to the formation of the INAHTA in 1993, the international association or network of those interested in HTA.

The countries of the European Union (EU) played a significant role in the development of HTA since the early 1980s, and founded the European Collaboration on Health Technology Assessment (ECHTA) in 2000-2002.

The EuneHTA project was launched in 2005 with the aim of bringing together and networking the national health technology assessment bodies of the member states.

The mission of EuneHTA is to support the collaboration between the European HTA organizations which brings an added value to healthcaresystems on the European, national and regional level.

The HTA process is currently performed by about 50 European HTA agencies. The fragmented approach of these HTA agencies can have a negative effect on investment in research and development in Europe. Therefore, the European Commission has adopted its legislative initiative on January 31, 2018. The suggested regulation on HTA has a goal of strengthening collaboration on health technology assessment at the EU level among the member countries.

On June 22, 2021, the Council of Europe and the European Parliament have reached a joint agreement on the legal proposition concerning the joint work on health technology assessment.

New rules foresee that the member states will work together at the EU level on joint clinical assessments and joint scientific consultations on health technologies. This joint work will provide valuable scientific information to national healthcare authorities when they need to make decisions on the prices and reimbursements of health technology costs.

The new rules will become directly applicable, in phases, three years after the regulation enters into force.

¹Banta D, Jonsson E. History of HTA: Introduction. *International Journal of Technology Assessment in Health Care*, 25:Supplement 1 (2009), 1–6.

²EuneHTA. <https://www.eunetha.eu/about-eunetha/mission-vision-and-values/>

³European Council. <https://www.consilium.europa.eu/en/press/press-releases/2021/06/22/health-technology-assessment-informal-deal-between-council-and-european-parliament/>

Status of health technology and pharmacoeconomics assessment in Bosnia and Herzegovina

Health technology assessment in Bosnia and Herzegovina is formally recognized in the entity laws which concern the regulation of healthcare insurance and financing of drugs and other technologies. The rulebooks which regulate the approval i.e. inclusion of drugs on the lists financed by health insurance institutes / funds (positive lists) prescribe the submission of pharmacoeconomics analyses as part of the documentation.

Thus the Federation of BiH prescribes submitting a budget impact analysis and cost-effectiveness analysis, but as a supplementary, optional part of the documentation.

In Republika Srpska, the abovementioned analyses are a mandatory part of the documentation submitted by marketing authorization holders, which are financed from the Health Insurance Fund.

In both cases, the applicant is required to submit analyses which include data and parameters from Bosnia and Herzegovina. This approach is justified considering the specifics of the healthcare system, the available budgets and the decision-making process.

The problem of transferability of the pharmacoeconomics study results – i.e. HTA reports – between countries has long been recognized, resulting in adopting a rule stating that it is necessary to do analyses based on local specificities, and not by merely copying the results during the decision making process.

The level of using pharmacoeconomics analyses in Bosnia and Herzegovina is exceptionally low and it comes down to academic or very simple studies submitted as part of the documentation to the decision makers, mostly just to fulfil a formality.

The main causes for this situation arise from the lack of capacity, or more accurately, lack of experts with an education in this field; both on the side of the decision makers – those who read, as well as on the side of the applicants for public funding of health technologies – those who write.

The situation is somewhat better in the countries of the region (Slovenia, Croatia, Serbia), but even in those countries there is a lack of directed education programmes in this field, which would introduce standards and ultimately a greater transparency in decision-making.

Aspiration of Bosnia and Herzegovina towards EU accession, as well as an ongoing process of harmonizing the legislation in different areas, will certainly place this issue on the agenda in the coming period.

It is therefore necessary to start building resources and capacities in a timely manner, in order to respond the challenges ahead of us in the most suitable way.

Why master studies in the area of health economics / pharmacoconomics

All healthcare systems are faced with limited available resources in the current economic climate

The master studies programme in Health economics and pharmacoconomics of the Sarajevo Medical School at the University SSST are the first academic postgraduate studies launched in Bosnia and Herzegovina and the countries of the region, as a response to the needs of the market and a higher interest of all actors for a scientific approach to health technology assessment.

The master studies programme, as a second-cycle studies programme, will provide the attendees with content related to basic concepts such as health economics, pharmacoconomics and health technology assessment through lectures and practical work.

Lecturers involved with the teaching process are academic experts, as well as professional experts and guest lecturers, representatives of the institutions which use pharmacoconomics analyses, both from Bosnia and Herzegovina and from countries of the region and Europe.

The importance and application of health technology assessment (HTA) and health economics, i.e. pharmacoconomics, during the decision-making process on the correct allocation of available resources is seen as inevitable.

Health technologies include:

- medicines
- medical devices
- diagnostic and treatment methods
- methods of rehabilitation and prevention

During the health technology assessment, the following aspects are usually taken into consideration:

- does it work better, equally well or worse than the existing alternative manners of treatment
- therapeutic effects, as well as possible side-effects
- influence on the quality of life
- manner of application
- expense
- effect on the organization of the healthcare system in the application of treatment.

HTA is a multidisciplinary process which uses explicit methods to determine the value of health technology in different phases of its life-cycle. The purpose is to inform the decision-making process in order to promote a just, effective and high-quality healthcare system.

Who are the master studies intended for?

Professionals within the healthcare system holding prior degrees in healthcare or economics

It is particularly meant for employees of:

- **Pharmaceutical industry** who are working on the tasks of market access, marketing and sales
- **Healthcare institutions** who are working in management, decision-making regarding financing of healthcare services, drugs and diagnostics and other medical devices
- **Health insurance funds / institutes** and private insurance companies
- **Ministries of health and health institutes**
- **Healthcare professionals** as decision-makers on a micro- and macro-level (prescribers, committee members, expert bodies for the development of treatment guidelines)
- **Pharmacists** in various segments of pharmaceuticals (pharmacies, industry, agencies and other bodies)



Delivery Format and Areas of Study

The programme comprises **60 ECTS** credits and is structured across two semesters, addressing the following areas:

Methodology of scientific work, with special reference to applicability in health-economics studies

Basic characteristics of healthcare systems, where the concepts of existing health systems and financing models will be presented, and possible reforms considered

Economics in the healthcare sector / healthcare economics, with an overview of basic economic theories and specificities of the healthcare sector

Basic concepts of pharmacoeconomics, where the attendees will receive basic information on the types of pharmacoeconomics analyses, and application of modelling while conducting pharmacoeconomics studies

Health technology assessment, as part of a wider concept applicable to diagnostic, therapeutic and other means and capital investments in healthcare.

Promotion of health, as an important sector of public health policy for the purpose of adequate prevention, setting healthcare policies and improving the system.

The classes will be held in hybrid way:

- **Direct contact – on-site lectures**
- **On-line lectures**
- **Seminars and research projects**
- **Final thesis**

*The classes will be held in **hybrid** format:*

- *Direct contact lectures – on-site lectures*
- *On-line lectures*
- *Seminars and research projects*
- *Final thesis*

Learning outcomes

Upon completion of their studies, students earn the title:

Master of biomedicine - Health economics and pharmacoeconomics

Masters of healthcare economics and pharmacoeconomics will have competencies for:

1. DESIGNING PHARMACOECONOMICS STUDIES
2. INTERPRETATION OF PHARMACOECONOMICS STUDY RESULTS
3. WRITING REPORTS ON HEALTH TECHNOLOGY ASSESSMENT
4. DEVELOPING PHARMACOECONOMIC MODELS AND MODELLING TECHNIQUES
5. CRITICAL EVALUATION OF PUBLISHED RESEARCH
6. EVALUATION OF HEALTHCARE INVESTMENTS AND POLICIES



S Y L L A B U S

SEMESTER I		
COURSE TITLE	ETCS	OBLIGATORY/ ELECTIVE COURSE
Methodology of a scientific research	6	O
Basic characteristics of healthcare systems	5	O
Economics in the healthcare sector / health economics	5	O
Basic concepts of pharmacoconomics	5	O
Health technology assessment	5	O
Master's seminar	4	O
	30	

SEMESTER II		
COURSE TITLE	ETCS	OBLIGATORY/ ELECTIVE COURSE
Modelling techniques	5	O
Master's thesis	25	O
	30	

C O U R S E S

COURSE TITLE

A I M S

METHODOLOGY OF A SCIENTIFIC PAPER

Presenting basic methods of a scientific-research with special emphasis on health studies and its specificities, presenting basic concepts of statistical methods including setting and testing a hypothesis, basic statistical methods, and critical evaluation of scientific publications. Students should acquire basic information about the structure of a scientific-research paper, ethical principles, types of scientific publications and their reviews.

BASIC CHARACTERISTICS OF HEALTHCARE SYSTEMS

Presenting basic characteristics of the development of healthcare and health systems throughout history, and point out the trends in the modern period. Basic definitions and organizational models of healthcare systems, healthcare policies, as well as models of financing healthcare systems will be presented through lectures. Attendees will receive clarification on the functioning of a sustainable healthcare system from the point of view of ethical, personnel and other standards, as well as economic implications related to healthcare, and basic principles of management and quality assurance in healthcare. In addition to the model of public healthcare systems, financing opportunities of private healthcare systems, as well as the potential formation of a public-private partnership will be presented.

ECONOMICS IN THE HEALTHCARE SECTOR / HEALTHCARE ECONOMICS

Pointing out the importance of economic assessments in the healthcare sector in terms of financing and securing sustainability, as well as economic assessment of healthcare services and goods in the context of limited budgets. Attendees will gain an image on the applicability of economic principles in healthcare with all the specificities that must be taken into account in relation to economics in other sectors. Basic economic theories from the aspect of the healthcare sector will be presented, as well as the manner in which healthcare system functions, the key statistical methods used in health economics, and the decision-making methods from the aspect of economic parameters.

BASIC CONCEPTS OF PHARMACO-ECONOMICS

Presenting basic principles of financing drugs as the most common means of achieving healthcare goals through the overview of evaluation of drugs and their economic assessment. Attendees will gain a detailed understanding of the concepts of most-commonly used methods of pharmacoeconomics (COI, CMA, CBA, CEA, CUA), as well as the concept of measuring therapeutic outcomes. Concepts of models and modelling in health-economics and pharmacoeconomic analyses will be elaborated. In addition to drugs, the application of pharmacoeconomic methods will be presented in examples of diagnostic and medical devices.

HEALTH TECHNOLOGY ASSESSMENT

Presenting basic principles of health technology assessment (HTA) as a broader concept. Within this program, attendees will be introduced to the ethical aspects of health technology assessment, basic statistical concepts and application in health-economics assessments, and the concept of availability of healthcare services.

PROMOTION OF HEALTH

Presenting the importance of implementing preventative programmes, and the manner of health promotion in a narrower and broader context. Attendees will be introduced to the basic legal framework of health promotion and health technologies, with a special overview of services and drugs, as well as ethical principles. From the aspect of applicability, attendees will be introduced to the basics of marketing, advertising channels, creation of key messages, channels for access to consumers, and the most commonly used means (printed, electronic and digital media).

MASTER'S THESIS

Writing their own research thesis under the guidance of the selected / assigned mentor.

Additional Information



01

Entry Requirements

The programme is open to professionals within the healthcare system and related sectors **who hold prior degrees in health sciences, pharmacy, economics, or other relevant disciplines** and wish to develop advanced knowledge and practical competencies in health economics, pharmacoeconomics, and health technology assessment.

02

Programme Fees

The tuition fee for the three-year program for BH citizens is 8.000 EUR/year.
Students may qualify for **scholarships and a reduced tuition fee.**

03

Bank Financing Options Are Available

Through a dedicated financing agreement, we will gladly assist future students in applying to our partnering financial institution for study financing with **repayment plans of 3, 5, or 10 years**, offered under specially favourable terms for our SSST students.

04

Start Of The Programme

The programme is scheduled to begin in October 2026.



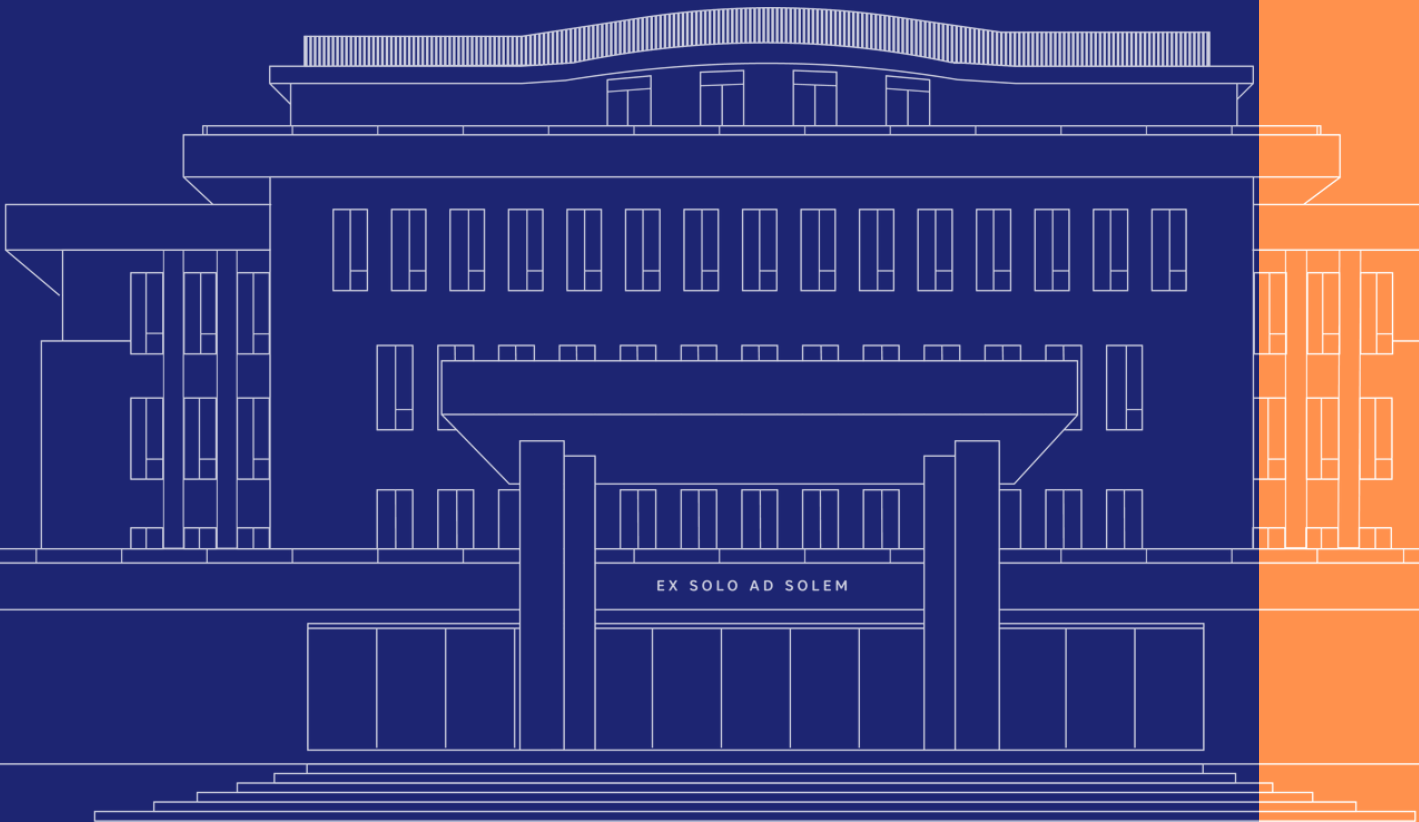
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