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## ACADEMIC STANDARD

### FOR THE DISCIPLINE „PHARMACOECONOMICS”

#### 1. Aim of the education on the subject

The aim of the education on the discipline „Pharmacoeconomics” is to introduce the students to the major terms, methods, calculation techniques and tools implemented in pharmacoeconomic assessment of the cost and outcomes of the drug therapy as well as to the application of pharmacoeconomic evidence in regulatory and applied pharmaceutical practice.

The aim complies with:

- University mission and concepts;
- Scope and credit rating of the discipline as listed in the curriculum;
- Qualification characteristics of the specialty;
- Academic degree (Master of Science).

The aim complies with the place of the discipline in the specialty allocated by significance and chronology in the curriculum. During the overall training course it is foreseen that the students would analyze individually publications on the implementation of Pharmacoeconomics in practice or on the way of application of the basic methods. By the end of the practical exercises the students should know the basic methods, be able to organize and conduct surveys of the pharmacoeconomic characteristics of drug use and analyze the results of realized studies.

#### 2. Educational content of the discipline

The topics and study hours of the lectures, practical exercises, and course tasks are listed on the website of the University. Their content is arranged in chronological order so that each next lecture and related exercises use already covered matter and terms. Thus unnecessary overlapping and presence of “gaps” between disciplines, associated by the educational plan is avoided.

#### 3. Prerequisites

The economic surveys in healthcare during the last years acquired a great importance because of restricted resources and elevated public expectations for drug therapy.

The introduction of requirements for provision of pharmacoeconomic assessment at compilation of the positive medicines list, the list of the National Health Insurance Fund, and cost formation of novel medical products requires the enhancement of pharmacists’ knowledge on pharmacoeconomics, so that they would be able to be fluent with the terminology, to apply pharmacoeconomic methods adequately and to analyze the results. This

knowledge is particularly important in relation to the overall restructuring of healthcare and the pharmaceutical sector for work in market-oriented conditions and health insurance system where it is necessary to determine most precisely not only the costs but also the expected results for the drug therapy and to make economically-based, socially-acceptable and medically-effective decisions.

The acquired knowledge in pharmacoeconomics is associated with enhancing pharmacists' comprehension on the surrounding social and economic environment and provision of evidence for making substantiated decisions.

#### **4. Academic resources**

The academic staff of the section includes one habilitated lecturer, three non-habilitated lecturers with a scientific degree "doctor" and the relevant scientific specialty and one non-habilitated lecturer. Four of the staff members have acquired a specialty in organization and economics of distribution and pharmacy practice and one is enlisted and undergoes post-graduate training in the specialty.

The lectures are presented by a habilitated lecturer (Associate Professor) with a PhD degree in the relevant doctoral program. Up to 30% of the lectures are assigned to non-habilitated lecturers with an academic degree in the relevant PhD program. The practical exercises are lead by non-habilitated lecturers (assistant professor, senior assistant professor). The non-habilitated lecturers have an academic educational qualification degree MSc in Pharmacy and have been employed after a competition.

#### **5. Material assets**

The students and postgraduate students are trained in auditoriums, five seminar halls, one computer room with installed pharmacy-oriented software and specially constructed „Training Pharmacy Facility”.

#### **6. Lectures part of the Curriculum**

The lectures are prepared and presented as multimedia presentations, supplied to the students either in an electronic version or as a hard copy. The supplied lectures scope and format depend on the leading lecturer's choice.

#### **7. Practical exercises**

They are conducted in groups. The practical exercises are completed with methodological guidelines, manuals and tests. The students have to solve individual and team tasks. The aim of the practical exercises is to check:

- Student's preparation
- Results (acquired knowledge and skills) of the particular practical exercise.

As a methodological form the priority is given to team work and team discussions. It is possible to assign tasks to the students to elaborate and defend their thesis (presentation) on a topic defined by the lecturer during the preceding exercise. After that a discussion with a group of students is organized where the presenting student defends his/her thesis.

#### **8. Information resources. Main publications. Websites**

The lecturer is obliged to have developed lectures on the subject and to present his/her lectures, training tests and other training materials in electronic format.

A list of the relevant recommended literature on each component of the subject (lectures, exercises) is provided with priority given to accessible sources (to be outlined as “main publications”). Internet resources can also be recommended providing appropriate materials for the student’s preparation.

## **Manuals**

### ***Main references***

Lecture course.

## **9. Control tests**

The students must be loaded dynamically and intensely during the semester. This comes from the presumption that the way to acquire knowledge and skills is an important factor for their comprehensiveness, sustainability and applicability.

Students’ knowledge current control is executed through tests once per semester as a minimum.

The students are provided timely information and details of the control results (during the next practical exercise), thus supporting their further preparation. The results of those tests are included as a component in the final semester evaluation mark.

## **10. Individual preparation and out-of-auditorium work of the students**

The individual work is supervised by the lecturer who advises the student on both literature sources to be studied and on methods for their understanding and adoption.

## **11. Collaboration between lecturers and students**

This collaboration is expressed in:

- Lecturer’s engagements with the student and his/her preliminary preparation; current difficulties in learning the material and options to achieve better results with implementation of individual programs.
- Use of consultation hours.
- Involving students in teams developing scientific projects, tasks, studies, etc.

## **12. Examinations**

The current evaluation marks foreseen in the educational plan of the discipline are formed by:

1. Student’s results from seminar exercises, individual tasks, student’s work with the lecturer on scientific research and projects, etc.;
2. At least one (at the end of the semester) control written test or student’s essay.

## **13. Evaluation standards**

The successful learning of the discipline „Pharmacoeconomics” of the education plan is evaluated as a compilation of evaluation marks distributed in two basic elements:

- The first one includes the student’s evaluation mark for the overall semester (not more than 30%). It includes individual evaluation marks for current control (tests), for the overall and qualitative execution of the forms of individual work, foreseen in the curriculum of the discipline.
- The second one covers the evaluation mark from the exam on the discipline (not more than 70%). The rules of leading the examination are also very important, with a view to

minimizing the possibility for examination results manipulation. The written part covers presenting one theoretical question and resolving one practical task – case.

Clear evaluation standards are developed for the discipline.

The levels of reproducing and implementation of the students' knowledge are defined as information-reproductive, technological-productive, and innovation-creative.

A certain characteristic is determined on the above basis for evaluation of the theoretical component of the examination:

- **Grade F (corresponding to Bulgarian grade “Weak” - 2** is assigned to a student with scarce knowledge that cannot be a basis for further educational levels.

- **Grade D – corresponding to Bulgarian grade “Poor” - 3** is assigned to a student who reproduces the knowledge in a “ready-to-use chart” with missing certain basic moments of the developed topic; there is no preparedness to use independently the obtained knowledge and professional competences; the terminology is not learnt and the presentation is characterized by poor wording;

- **Grade C – corresponding to Bulgarian grade “Good” - 4** is given to a student who develops the subject descriptively, reproductively, using model situations; restricted independence when using the acquired knowledge and professional competences; the presentation, though characterized by good language culture, contains improper use of certain terms;

- **Grade B – corresponding to Bulgarian grade “Very good” - 5** is given to a student who develops the issue independently, productively, unusually, searching for a new algorithm and analysis of the used referent publications; tries to define and substantiate an own thesis; adequately implements the terms of the scientific domain of the studied subject, shows good language culture;

- **Grade A – corresponding to Bulgarian grade “Excellent” – 6** is assigned to a student who independently, logically, with creative elements presents the topic; uses and interprets the relevant referent publications in a substantiated and original way; completeness and preparedness to implement the acquired knowledge and professional competences; accurate, rich language of the presentation.

In the beginning of the lessons the students must be acquainted with the evaluation standards, procedures for current control and feedback options concerning their progress during the semester.

#### **14. Formation of the final evaluation mark**

The final evaluation mark determines the extent to which the particular student has achieved the aim of the tuition defined in the beginning. It is multicomponent and includes the evaluation mark of the written final examination, the evaluation of the oral final examination and current control evaluation mark.

For each component, participating in the final evaluation mark a significance ratio is assigned ranging in the interval 0 - 1 and the total of the ratios must always be 1. The final evaluation mark is calculated as a sum of the evaluation marks according to the Bulgarian evaluation marks system of the individual components multiplied by the respective significance ratios.

**Q final evaluation mark =  $\kappa_1$  Q evaluation mark for current control +  $\kappa_2$  Q written examination mark +  $\kappa_3$  Q oral examination evaluation mark**

$$\kappa_1 = 0.20; \kappa_2 = 0.50; \kappa_3 = 0.30$$

When one of the components of the final exam is “Weak (2)”, the final evaluation mark is obligatorily “Weak (2)”.

The components participating in the formation of the evaluation mark and the significance ratios for each subject are determined by the Academic Council with the approval of the current academic standard of the discipline.

### **15. Documenting, keeping the results and control of the evaluation activity**

- The students subjected to evaluation have the right and obligation to be informed about the evaluation rules, procedures and results, to submit claims and complaints when the current rules are not observed.

- The student's right in the aspect of the above paragraph is enforced in case of established technical omissions or errors (e.g. at calculating or at entering the evaluation marks in the relevant files) as well as in case of serious grounds for biasing of the actually exhibited knowledge, skills and competence and the final evaluation mark assigned to the particular student.

- Evaluation marks revisions are admitted in cases within the above paragraph and are entered in the student's record book, examination protocol or in the lot in the Main Record Book only by the discipline holder.

- Any eventual arguments and claims on students' behalf are supplied in written form to the evaluating team that must provide a substantiated reply by the end of the next working day.

- Any established and proven cases of serious violation of students' rights at evaluating their knowledge, skills and competences are submitted in written form to the Vice Rector responsible for Quality Assurance and Accreditation.

The examination materials are stored and allowed for the students to get acquainted with them as well as with the grounds for evaluation in compliance with predefined order and procedure. The period for students' access to the test materials is not longer than 3 (three) working days after the examination date. The characteristic of the discipline is submitted to the students in the beginning of the training. This corresponds to the Art. 56, par. 1 of the University Education Law, according which the lecturers have to elaborate and announce adequately the description of the course lectured by them, including headings and sequence of the topics, forming the educational content, recommendable reference materials, way of forming the evaluation mark and forms of checking the knowledge and skills.

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