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ANALYTICAL REPORT

on evaluation of the effectiveness of implementation of elective courses (EC)

"Green Technologies in Medicine"

"Rare and Endemic Plants of Kyrgyzstan"

"The Role of Macro- and Microelements in the Human Body"

*Department of Educational Quality Management**

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1. INTRODUCTION

This report has been prepared in accordance with the requirements of the quality management system of KSMA and on the basis of the Rector's order on conducting an evaluation of the effectiveness of the implementation of educational programs. The purpose of the report is to analyze the results of the implementation of three elective courses (EC) in the period from 2024 to 2026, to assess student satisfaction and the level of formed competencies based on the results of mastering the programs.

Elective courses are organized and implemented in accordance with the Regulation on EC of KSMA, approved by the Rector's order dated 10.10.2017, and are aimed at forming additional knowledge in students on current areas of medicine.

Total number of students trained in all three disciplines for the reporting period: 700 people (in total for all streams).

2. EVALUATION METHODOLOGY

2.1. Evaluation tools

Evaluation of the effectiveness of the implementation of EC was carried out using the following tools:

1. Sociological survey of students using a specially developed questionnaire.

2. Analysis of academic performance based on the point-rating system (PRS) and final assessments.

3. Assessment of formed competencies at the output (exams/tests, solving situational problems, practical skills).

2.2. Satisfaction rating scale

Assessment of the degree of student satisfaction was carried out on the basis of a five-point Likert scale with calculation of a summary indicator as the share of the sum of positive answers ("agree" and "strongly agree"):

- High degree of satisfaction > 80%

- Medium degree of satisfaction 50% – 80%

- Low degree of satisfaction < 50%

2.3. Competency Assessment

Assessment of the level of competence formation was carried out based on the final results of passing tests/exams with calculation of:

- Quality indicator (QI) – share of students who received grades "excellent" and "good".

- Degree of students' learning (DSL) – integral indicator of academic performance.

3. EVALUATION RESULTS

3.1. Course "Green Technologies in Medicine"

Course characteristic: the discipline is aimed at forming students' knowledge about the application of environmentally sustainable technologies in medical practice, energy-efficient solutions in healthcare, environmentally safe disposal of medical waste and principles of a "green" hospital.

3.1.1. Results of student survey

Survey conducted among 215 students who completed the course in 2024-2026.

- Relevance of course content – 94.2%

- Practical significance for future profession – 91.8%

- Quality of teaching – 93.5%

- Accessibility of material presentation – 89.7%

- Availability of interactive teaching methods – 87.4%

- Compliance with expectations from the course – 92.1%

- Overall satisfaction – 91.5%

Student comments: the most valuable aspects of the course were acquaintance with international standards of environmental safety in medicine and practical cases on the implementation of energy-saving technologies in medical institutions.

3.1.2. Assessment of competencies at the output

- Quality indicator (QI) – 87.3%

- Degree of learning (DSL) – 82.6%

- Share of students who passed with "excellent" – 34.2%

- Share of students who passed with "good" – 53.1%

3.2. Course "Rare and Endemic Plants of Kyrgyzstan"

Course characteristic: the discipline introduces students to the biodiversity of the flora of Kyrgyzstan, the medicinal properties of rare and endemic plants, their use in traditional and modern medicine, issues of conservation and sustainable use of plant resources.

3.2.1. Results of student survey

Survey conducted among 230 students.

- Relevance of course content – 92.8%

- Practical significance for future profession – 90.4%

- Quality of teaching – 94.1%

- Accessibility of material presentation – 88.6%

- Interest in regional component – 95.3%

- Compliance with expectations from the course – 91.7%

- Overall satisfaction – 92.2%

Student comments: students especially noted the uniqueness of the course from the point of view of regional specificity, practical classes on identification of medicinal plants and excursions to the botanical garden.

3.2.2. Assessment of competencies at the output

- Quality indicator (QI) – 88.6%

- Degree of learning (DSL) – 83.9%

- Share "excellent" – 36.5%

- Share "good" – 52.1%

3.3. Course "Role of Macro- and Microelements in the Human Body"

Course characteristic: the discipline is devoted to fundamental and applied aspects of human elemental status, physiological role of essential and toxic trace elements, diagnostics of microelementoses, principles of correction of mineral metabolism disorders and use of micronutrients in clinical practice.

3.3.1. Results of student survey

Survey conducted among 240 students.

- Relevance of course content – 95.6%

- Practical significance for future profession – 94.3%

- Quality of teaching – 93.8%

- Accessibility of material presentation – 90.2%

- Depth of coverage of clinical aspects – 89.5%

- Compliance with expectations from the course – 93.4%

- Overall satisfaction – 92.8%

Student comments: the course was recognized as one of the most demanded due to its direct connection with clinical practice. Students highly appreciated the analysis of clinical cases of deficiency conditions and principles of nutritional support.

3.3.2. Assessment of competencies at the output

- Quality indicator (QI) – 89.2%

- Degree of learning (DSL) – 85.1%

- Share "excellent" – 38.0%

- Share "good" – 51.2%

4. SUMMARY RESULTS

4.1. Comparative table

- Overall satisfaction: Green Technologies – 91.5%, Rare plants – 92.2%, Macro/microelements – 92.8%

- Quality indicator: 87.3%, 88.6%, 89.2%

- Degree of learning: 82.6%, 83.9%, 85.1%

- Number of students: 215, 230, 240

4.2. Integral indicators for all elective courses

- Average student satisfaction – 92.2%

- Average quality indicator (QI) – 88.4%

- Average degree of learning (DSL) – 83.9%

- Total number of trained students – 685

5. CONCLUSIONS

Based on the assessment of the effectiveness of the implementation of elective courses, the following conclusions can be made:

1. High degree of student satisfaction. All three EC demonstrate an overall satisfaction level of over 90%, which significantly exceeds the threshold of high satisfaction (80%) established in the KSMA assessment methodology. The highest indicators were noted for the criteria "relevance of content" and "practical significance".

2. Excellent results of competency assessment. The quality indicator for all courses exceeds 87%, which indicates a high level of material assimilation by students. The share of students who received grades "excellent" and "good" averages 88.4%.

3. Successful implementation of educational programs. Given that up to 700 students have been trained since 2024, it can be stated that these elective courses have been successfully implemented within the educational process of KSMA.

4. Practical significance of the courses. High assessments of the practical significance of all three disciplines (from 90.4% to 94.3%) confirm their relevance for training competitive medical personnel.

6. RECOMMENDATIONS

Based on the results obtained, it is recommended:

1. To continue the implementation of all three elective courses in the curricula of the respective faculties.

2. To increase the number of hours of practical classes for the course "Green Technologies in Medicine".

3. To expand the regional component of the course "Rare and Endemic Plants of Kyrgyzstan" by including a larger number of practical field classes.

4. To consider the possibility of introducing, on the basis of the course "Role of macro- and microelements in the human body", optional modules on nutritional support of patients for senior students.

5. To ensure annual updating of the content of courses.

6. To disseminate the positive experience of organizing and conducting these elective courses to other departments of the academy.