



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Vilniaus universiteto
GENETIKOS PROGRAMOS (612C40001)
VERTINIMO IŠVADOS

EVALUATION REPORT
OF *GENETICS* (612C40001)
STUDY PROGRAMME
at Vilnius University

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Išvados parengtos anglų kalba
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Vilnius
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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Genetika</i>
Valstybinis kodas	612C40001
Studijų sritis	Biomedicinos mokslai
Studijų kryptis	Genetika
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	pirmoji
Studijų forma (trukmė metais)	Nuolatinė (4)
Studijų programos apimtis kreditais	240
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Genetikos bakalauras
Studijų programos įregistravimo data	2010-07-20 , Nr. 1-01-66

INFORMATION ON ASSESSED STUDY PROGRAMME

Name of the study programme	<i>Genetics</i>
State code	612C40001
Study area	Biomedical Sciences
Study field	Genetics
Kind of the study programme	University studies
Level of studies	first
Study mode (length in years)	Full-time (4)
Scope of the study programme in credits	240
Degree and (or) professional qualifications awarded	Bachelor of Genetics
Date of registration of the study programme	Order No. ISAK-1-01-66 of 20 July, 2010

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I. INTRODUCTION

Genetics is the bachelor degree study programme that is run within the Faculty of Natural Sciences of Vilnius University in close collaboration with Institute of Biotechnology and Institute of Biochemistry. The Bachelor's Study Programme in Genetics (hereinafter GB SP) was registered on 2010-07-20. First students will graduate from the Programme in 2014. In the year 2010, 33 students were admitted, in 2011 - 24 and in 2012 - 22 students. The average entrance grade to the Programme within three years was 19.42.

The self-assessment report (hereinafter SER) submitted in November 2012 is programme-specific but rather laconic, and some places contain incomplete data. The information gaps have been completed during the site visit. The text of the SER is not divided into paragraphs numbered sequentially, as recommended by Methodology for evaluation of higher education study programmes (Order No 1-01-162 of 20 December 2010 of the Director of the Centre for Quality Assessment in Higher education). There is no subject information – introduction to studies, standard language and professional phraseology in annex 1.

Evaluation Team

The current evaluation was conducted in February 2012 by a panel of experts from Poland, Latvia, Czech Republic, Finland and Lithuania, including a student representative. The group leader: Prof. in Plant Physiology Halina Gabryś, Dr. habil. Biology, Jagiellonian University, Krakow, Poland; team members: Prof. in Microbiology Indriķis Muiznieks, Dr. habil. Biology, University of Latvia, Riga; Prof. in Molecular Biology Kari Keinänen, Dr. Biochemistry, University of Helsinki, Helsinki, Finland; Prof. emeritus in Biology and Genetics Radim Brdicka, M.D., Dr. habil, Charles University, Prague, Czech Republic; Prof. in Genetics Ilona Miceikienė, Dr. Biology, University of Health Sciences, Kaunas, Lithuania; student, Mr. Tadas Juknius, University of Health Sciences, Kaunas, Lithuania.

The procedure of the evaluation

The SER of the GB SP was made available to the expert team in the end of January 2012. All the members of the expert team examined the SER individually, preparing preliminary reports and indicating problem questions or discussion points. The experts obtained further information during the site visit in Vilnius on February 26. In conducting the evaluation the expert panel met administration of the faculty, the group which prepared SER, the teaching staff, current students and social partners. As the programme has only been run for three years no graduates were available. The experts reviewed also material resources: library, laboratories within University, Biotechnology institute and the international company Thermo Fisher Scientific. Following the visit, on February 28 the expert group held a meeting, discussed the content of the evaluation report and agreed upon the numerical evaluation of every section of the evaluation. The draft report was composed through electronic exchange of opinions within the expert team and forwarded to VU. After receipt of the comments from the VU the Evaluation Team members prepared final versions of their reports, which were integrated into one document by the group leader.

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The Bachelors' Study Programme in Genetics is designed to produce graduates able to pursue successful careers in a wide range of professional areas, such as molecular, cell or developmental biology and biochemistry. According to evaluations made by the Lithuanian Society of Biotechnologists, the Lithuanian biotechnology industry will create about 100 new workplaces for geneticists by the end of 2015.

The GB SP aims to develop (SER, pages 5/6):

- 1) knowledge and understanding in the main courses of genetics and in borderline disciplines;
- 2) research skills in both laboratory and e-communication (including library);
- 3) awareness of emerging issues and unsolved problems in genetics;
- 4) graduate attributes including a wide range of generic transferable skills;
- 5) an awareness of the contribution of Lithuania to the development of the modern biological sciences, especially in fields of genetics and epigenetics.

Learning outcomes are used in the design of the programme. They are clearly specified and harmonised with the study programme aims; achieved by teaching specific subject courses included in the curriculum. The programme learning outcomes fall into six broad areas: (1) knowledge and understanding, (2) research, (3) critical thinking and independent action, (4) communication, (5) personal effectiveness, and (6) practical skills. These outcomes are in general agreement with National requirements and international recommendations. The methods employed for the attainment of the expected learning outcomes in every outcome category are described in detail in the pages 6 to 10 of the SER. The course descriptions, which are annexed to the SER, reveal quite an uneven representation of the input of taught subjects into the attainment of the programme learning outcomes. Some descriptions provide comprehensive analysis of the links of the course to all or to most outcome categories (Course Project, English), others address some categories (Developmental Genetics – knowledge and critical thinking), still other ones (Bioorganic Chemistry, Biotechnology), as judged by their descriptions, focus mostly on the knowledge acquisition. Eventually, more detailed elaboration of the expected outcome categories, within the last mentioned course group may be recommended. The Evaluation Team would suggest considering possibilities of including additional learning outcome categories, which may lead to the future activities in the role of employer, not only employee in the labour market.

The internet addresses, which are provided within the SER (pages 11, 17, 19, 23) link to the course structure diagram and various study process regulations at the University, which is, by all means, an important information, but not sufficient to disseminate data about the aims and learning outcomes of the programme.

The SER data provide good proof, that the GB SP is designed to produce graduates able to pursue successful careers in a range of professional areas directly or indirectly linked to the modern biotechnology, medical and agricultural research, by biotechnological and pharmaceutical companies, and by the health service, for example in Genetic Counselling. Since there has been no graduation from the programme by now it is not possible to validate the given assumptions. It is important to acknowledge, that the study outcomes attained at the GB SP are applicable in a wider context and should help the graduates find employment in other sectors.

In recent years Lithuania became a visible player in international biotechnology business. Such international players as Teva and Thermo Fisher Scientific have acquired local biotech companies in Lithuania. High expectations about career opportunities within the sector are reflected by huge popularity of the programme among the high school graduates.

The learning outcomes of the GB SP are regularly assessed, The Study Programme Committee (hereinafter SPC) include representatives of social partners and the students. The SPC is responsible for the assessment and update of the GB SP learning outcomes.

The first cycle GB SP leads to the qualification Bachelor in Genetics on the basis of acquisition of the learning outcomes that are compatible with the qualification offered. The name of the Bachelors' Study Programme in Genetics, its learning outcomes, content and the qualifications offered are compatible with each other.

2. Curriculum design

The structure of the Programme is set up according to requirements laid down by the Ministry of Education and Science. The structure is based on the division to Major and Minor learning specialization modules, by now the students who are enrolled in the programme have not opted for other eligible Minors apart of the basic one, the Genetics. It has to be explored by SPC, if the extended duration of studies, needed to obtain the Bachelor degree (4 years, instead of 3 as in most European countries) do not create disadvantages for the students seeking to obtain the qualification and if this prolongation of the time spent at the university does not impede the exchange possibilities with other European universities, especially taking into account the intentions to internationalize the consecutive Masters' study programme in Vilnius.

The scope of the subjects/modules in plan is expressed in credits. The programme is of 240 ECTS credits, 60 credits in each year of the Programme, the final thesis 15 credits; the practice 30 credits. The programme is full time for 4 years. No more than 7 subjects per semester are put forward in the curriculum.

The content and methods are appropriate for students' achievement of the intended learning outcomes. The component subjects cover different genetic themes. The curricular structure ensures the appropriate sequencing of courses, with earlier courses providing the foundation for later ones. The Programme was started only three years ago, so not all courses have been taught yet. To make better interaction between different courses and optimize their content, several changes in the course schedule have been made - Structural Cell Biology was placed into 2nd semester in order to facilitate understanding of some important topics in biochemistry and genetics, Biometry was moved to 4th semester to improve students' skills for experimental data analysis, some courses that were not popular among students have been changed, excluded from the Programme or merged with other courses. According to students' opinion, more elective courses should be proposed. Both Immunology and Biotechnology should be obligatory in the curriculum, not elective (one or another). Some subjects are repeated (e.g. during chemistry and biochemistry courses).

A broad range of teaching and learning methods are used: consultations, research work, lectures, laboratories, problem based learning; investigative method (information search and filing, report arrangement and presentation) in small groups (up to 6 students), self-study, practice classes, seminars and individual assignments, field trips etc.

There is some mismatch in information: according to teachers there is a good balance between practical and theoretical courses, yet students would like more practical training. It is not possible to evaluate the situation on the basis of course descriptions because the contacts

hours given are not separated into lectures and practical classes. Also, it is not clear how individual work is assessed. Individual work assessment should be made clearer.

The general rules for professional practice and requirements for Bachelor Thesis have been adopted by the Senate of Vilnius University. First students will graduate the Programme in 2014.

3. Staff

The legal requirements concerning staff are fulfilled. In total, 24 persons are affiliated with the GB SP: 11 professors, 6 associate professors and 7 lecturers and assistants, among them 3 doctors. 48% of all courses are taught by professors, 21% - by docents, and 31% - by lecturers and assistants.

The general qualifications of the teaching staff are sufficient to ensure learning outcomes of the Genetics bachelor programme although discrepancies can be noticed between the subject taught and the research profile of the lecturing faculty member. The table in app.2 of SER lists genetics as the subject lectured by 6 teachers whereas publications listed in app.3 in two cases may be categorized as medical (clinical) papers, having little or no connection with genetics. Other inconsistencies: publications listed by the teacher of bioorganic chemistry belong rather to the discipline of molecular biology while the teacher of molecular biology publishes in the field of microbiology. The Programme leaders themselves point to the necessity of supplementing the staff. To account for fast changes in the field of molecular genetics they plan to engage new lecturers from among current post-docs and PhD students who study at the Institute of Biotechnology or Institute of Biochemistry of Vilnius University. These lecturers would add skills and knowledge in new areas of genetics (e.g. next-generation sequencing, genomic data analysis, transcriptomics).

The number of teaching staff is fully adequate to ensure the intended learning outcomes. The ratio of teachers to students which can be evaluated as between 1:3 and 1:4 is more than sufficient for this purpose even if the staff members are involved in other programmes.

Since 2008 the teaching staff has been supplemented by 3 new members lecturing Bioinformatics, Structural cell biology, Genetics of microorganisms and Plant molecular biology. The age structure of the teaching staff is adequate. The average age of teachers is 49 years; 5 teachers out of 24 are below 40. The recruitment of young staff members, among others from the group of present PhD students has been foreseen by the programme leaders. Furthermore, two PhD students currently work as lecturers. This situation guarantees sustainable teaching /learning processes in the bachelor study programme.

While in duty, teachers are asked to enhance their professional qualifications in accordance with the Regulations of Qualification Enhancement of the Academic Personnel at Vilnius University (approved by the Vilnius University Senate Commission on 3 July 2008).

The activities performed to fulfil this requirement include long- and short-term visits to universities and research centres of different countries as well as participation in national and international conferences, workshops and seminars.

The Faculty teaching staff is deeply involved in research, in most cases directly related to the study programme being revised. This is confirmed by publications, the majority of which are published in international journals. Several professors and lecturers are active participants of national and international scientific programmes, such as Framework programme 7, COST, EURECA. This provides opportunity to involve students in national and international research activities.

4. Facilities and learning resources

There are 28 auditoriums at the Faculty of Natural Sciences, where study programme is implemented. Two auditoriums are for 100 students, two – for 65 students, three for 50 students, five for 40 students. The capacity of the other auditoriums is lower. Most of the auditoriums are equipped with multimedia. There are 13 teaching laboratories at the Faculty of Natural Sciences. In addition, practical parts of courses in chemistry and physics are organized in teaching laboratories of the Faculty of Chemistry and the Faculty of Physics, respectively. Lecture halls are quite old and sometimes do not meet needs of the teaching staff and students. The situation will be improved in new research and teaching facilities – Life Sciences Centre (planned for 2015).

During practices students are trained at modern equipped scientific laboratories that meet highest international standards. The laboratory safety measures were not always observed (e.g. in some laboratories of the Institute of Biotechnology). During the last 5 years more than ~ 2,9 million EUR were invested into new research and teaching equipment of the Faculty of Natural Sciences. About ~7,3 million EUR were invested into infrastructure of Institute of Biotechnology and Institute of Biochemistry, where most students are preparing their Thesis. Additionally, the students have possibility for practice in a newly built branch of the world-wide known international company Thermo Fisher Scientific.

Library of the Faculty of Natural Sciences has a reading hall for 40 students. The library working hours from January to May are 9.00-18.00 (closed on Saturdays and Sundays). From any computer connected to university computer network it is possible to access all e-resources available at the Vilnius University Library. University has access to important data base for e books (~700 000). All dormitories of University of Vilnius are connected to University computer network, so students living in the dormitories have a possibility to access these resources directly from their room computers. New printed resources (textbooks, etc.) are added each year to the library stock. In the field of Genetics there are enough hard copy books but teaching materials in CDs are prepared by lecturers and available in the library as well. New facilities will be available after renovation of the library which is starting in 2013 (more space, electronical subscriber system, etc.).

The facilities for lectures, laboratory work and especially practices are enough in quantity, size and equipped modernly. Some laboratories meet highest international standards. There is enough amount of proper learning resources – textbooks, CD and e-books, ect.

5. Study process and student assessment

Admission is organized by The Lithuanian Higher Institutions Association for Organizing Joint Admission (LAMA BPO). The main admission criteria are grades of School Leaving Examinations. Examinations in Lithuanian language and Biology are obligatory, in Chemistry and Mathematics – elective (one of two). Admission to the GB SP was organized in the years 2010, 2011 and 2012. Only highly motivated students have been admitted to this study programme. In 2010 25 state-funded students were admitted from among 542 candidates, and 8 students – to self-funded studies from among 82 candidates. In 2011, the respective numbers of admitted students were 22 per 730, and 2 per 175 candidates.

The study programme ensures the attainment of theoretical and practical skills in genetics, teaches how to record and present practical procedures and outcomes, and how to analyze results under field conditions (Training Practice in Biology). There exists an effective feedback from students and lecturers (examiners) on the one hand and from future employers on the other hand which concerns the curriculum at the first place. From the students' point of view, some

expansion of the practical part of the programme is required in order to attain the proper balance between theoretical and practical parts.

Students are encouraged to participate in different research projects not only at the university but also in those offered by other institutions. They participate actively in the scientific life including conferences, theses presentations etc. The project "Promotion of Students' Scientific Activities", sponsored by the European Union Structural Funds, is aimed at encouragement of young peoples' interest in science and technologies. Three students have been awarded such grants during 2011-2012.

Only one student took an internship at Göteborg University within frame of Erasmus programme. As declared by students, the reason of the minimal interest in the programme is a relatively limited offer of study areas and/or laboratories which do not correspond to students' interests. Furthermore, some study subjects do not match foreign university programmes. Another reason is the possibility to do effective research in the friendly atmosphere of home university.

All students are provided with academic or social support according to the Law on Higher Education and Research (30 April 2009 No XI-242). The students have possibility to live in dormitories, to get scholarships or grants, and other social support. On the other hand, they complained about the lack of lunch facilities and the early closure of the library.

According to the scale shown in the self-evaluation report, the system of assessment seems to be very useful. Laboratory reports, essays, on-line tests or written examinations are provided with oral or written feedback. Yet, the assessment system is incomplete in one area: no criteria for evaluating individual work have been elaborated.

As no students have graduated from GB SP thus far, no information about employment is available. As a good predictor for future employment, in 2012 three 3rd year students were awarded stipends by Thermo Fisher Scientific and were invited to carry out their research at the Research Centre of this international company. After completing the GB SP, almost all undergraduate students plan to work according to the obtained speciality and/or to continue studies for master degree.

6. Programme management

The SPC is the major organ responsible for the management, monitoring and quality control of the GB SP. The SPC is appointed by the Faculty Council and approved by the Senate, and conforms to the requirement that it "must include representatives of social partners and the students". According to the self-evaluation report, SPC includes three professors from the Department of Botany and Genetics, one representative of social partners (from Thermo Fisher Scientific), and one student member. In addition, the Vice-Dean of the Faculty represents the Faculty administration in the SPC and takes care of the daily management of the programme. The general responsibilities and the roles of the teachers, department, SPC, and the Faculty Council in the planning of the content and in choosing the assessment methods used in the courses are described: teachers subject their proposals first to departmental and then to SPC approval. Changes to be introduced to the programme need a final approval by the Faculty Council. It is not entirely clear from the SER nor from the discussions during the site visit how the SPC interacts with other departments (i.e. other than Dept of Botany and Genetics) as these do not have a representative in SPC. In particular, it has been stated that the programme is run together with the Institute of Biochemistry and Institute of Biotechnology, but it is unclear how exactly do these institutions participate in the actual planning, management and monitoring of the programme. The curriculum includes a number of courses given by lecturers / teachers from

other departments / institutions and their input to the continuous development of the programme is naturally important.

Overall, however, the responsibilities for decisions and monitoring the implementation of the programme are allocated in a clear manner.

The study programme committee is mainly responsible for the quality control of the programme. No previous external evaluations have been performed, but internal evaluations are used in a regular fashion to improve the programme. These are based on on-line student surveys of the courses and - in a more informal way - on direct feedback and suggestions from teachers, departments and students. Results from student surveys have led to some changes in two courses so far. One problem mentioned in the self-evaluation report is the low participation rate in the student surveys. Discussions with the teaching staff and with students showed that direct feedback from students is more common. In preparation for the on going external evaluation, the material was collected, analysed and processed in a "Self-assessment Report" by the self-assessment group which is essentially identical to the SPC.

The evaluation processes described above are managed and analyzed by the SPC and involve the teachers and the students. The involvement of employers, alumni and - to some extent - other departments / institutions than the Department of Botany and Genetics in the internal evaluations and in the current external evaluation is less well defined.

Thus, internal evaluations are used as a tool for the continuous improvement of the programme, but broader participation of all stakeholders in the process would be desirable and would improve the efficiency of the evaluation processes.

Despite the above-mentioned shortcomings, discussions with the administration, teaching staff, students, and representatives of a key industrial partner, Thermo Fisher Scientific, left a very positive overall impression of the programme management.

III. RECOMMENDATIONS

1. The Evaluation Team would suggest considering possibilities of including additional learning outcome categories, which may lead to the future activities in the role of employer, not only employee in the labour market.
2. It has to be explored by SPC, if the extended duration of studies, needed to obtain the Bachelors' degree (4 years, instead of 3 as in most of the European countries) do not create disadvantages for the students seeking to obtain the qualification and if this prolonged time spent at the Vilnius university does not impede the exchange possibilities with other European universities, especially taking into the account the intentions to internationalize the consecutive Masters' study programme in Vilnius.
3. To obtain a better balance between different courses and optimize their content, it is recommended to enrich the offer of elective courses.
4. New lecturers with skills and knowledge in rapidly growing areas of genetics, e.g. next-generation sequencing, genomic data analysis, transcriptomics should be recruited to the programme.
5. Prolonging of library opening hours is recommended to improve the conditions of self study for students. Adherence to laboratory safety measures should be controlled more carefully during students' laboratory/practical work.
6. Achievement assessment of self study hours should be made clearer.
7. The offer of studies available at other Universities through the Erasmus programme should be broader and compatible with Genetics programme.
8. The GB SP should develop ways to increase the participation of all stakeholders in the continuous improvement of the programme. Possible solutions include extending the SPC membership to other departments / institutions and active work to improve the representativeness of student surveys.

IV. SUMMARY

The Bachelors' Study Programme in Genetics is designed to produce graduates able to pursue successful careers in a wide range of professional areas, such as molecular, cell or developmental biology and biochemistry. According to evaluations made by Lithuanian Society of Biotechnologists, Lithuanian biotechnology industry will create about 100 new workplaces for geneticists by the end of 2015. The genetic programme has a very high reputation among high school students.

The learning outcomes used in the design of the programme are clearly specified and harmonised with the study programme aims. They are achieved by teaching specific subject courses included in the curriculum. The Evaluation Team would suggest considering possibilities of including additional learning outcome categories, which may lead to future activities in the role of employer, not only employee in the labour market.

It has to be explored by SPC, if the extended duration of studies, needed to obtain the Bachelors' degree does not create disadvantages for the students seeking to obtain the qualifications and if this prolongation of the time spent at the home university does not impede the exchange possibilities with other European universities, especially taking into account the plans to internationalize the consecutive Masters' study programme in Vilnius.

The curricular structure ensures the appropriate sequencing of courses. However, some additional courses, especially electives are required to complete the curriculum. A broad range of teaching and learning methods are used. During internships students are trained at modern equipped scientific laboratories that meet the highest international standards.

The teaching staff is deeply involved in research, in most cases directly related to the study programme. Professors and lecturers are active participants of national and international scientific programmes, such as Framework programme 7, COST, EURECA. This provides opportunity to involve students in national and international research activities.

The facilities for lectures, laboratory work and especially practices are enough in quantity, size and equipped modernly. Some laboratories meet highest international standards. There is enough amount of proper learning resources – textbooks, CD and e-books, ect.

The study programme ensures the attainment of theoretical and practical skills in genetics, however, from the students' point of view, some expansion of the practical part of the programme is required. Students are encouraged to participate in different research projects and they participate actively in the scientific life including conferences, theses presentations etc. The assessment system is incomplete in one area: no criteria for evaluating individual work have been elaborated.

The programme appears to be run and administered in a professional manner. The responsibilities for decisions and monitoring the implementation of the programme are clearly allocated. Also a very warm and family-like atmosphere, as observed by teachers and students alike during the site visit speaks for good management and general satisfaction. Internal evaluations are used as a tool for the continuous improvement of the programme, but broader participation of all stakeholders in the process would be desirable and would improve the efficiency of the evaluation processes

V. GENERAL ASSESSMENT

The study programme *Genetics* (state code – 612C40001) at Vilnius University is given **positive** evaluation.

Study programme assessment in points by fields of assessment.

No.	Evaluation Area	Evaluation Area in Points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	3
3.	Staff	4
4.	Material resources	4
5.	Study process and assessment (student admission, study process student support, achievement assessment)	3
6.	Programme management (programme administration, internal quality assurance)	4
	Total:	21

*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;

2 (satisfactory) - meets the established minimum requirements, needs improvement;

3 (good) - the field develops systematically, has distinctive features;

4 (very good) - the field is exceptionally good.

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<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Vilniaus universiteto studijų programa *Genetika* (valstybinis kodas – 612C40001) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	3
2.	Programos sandara	3
3.	Personalas	4
4.	Materialieji ištekliai	4
5.	Studijų eiga ir jos vertinimas	3
6.	Programos vadyba	4
	Iš viso:	21

* 1 - Nepatenkinamai (yra esminių trūkumų, kuriuos būtina pašalinti)

2 - Patenkinamai (tenkina minimalius reikalavimus, reikia tobulinti)

3 - Gerai (sistemiškai plėtojama sritis, turi savitų bruožų)

4 - Labai gerai (sritis yra išskirtinė)

IV. SANTRAUKA

Genetikos bakalauro studijų programa sukurta ruošti absolventus, galinčius daryti sėkmingą karjerą plačioje profesinių sričių įvairovėje, būtent molekulinės, ląstelių ar vystymosi biologijos ir biochemijos. Lietuvos biotechnologų asociacijos duomenimis, iki 2015 metų Lietuvos biotechnologijų pramonėje genetikams bus sukurta apie 100 naujų darbo vietų. Genetikos programa aukštųjų mokyklų studentų tarpe yra įgijusi labai gerą reputaciją.

Programos kūrime numatyti mokymosi rezultatai aiškiai išskirti bei atitinka studijų programos tikslus. Rezultatai pasiekiami, mokant specialių mokomųjų ir į veiklą įtraukiamų dalykų. Ekspertų grupė siūlytų apsvarstyti galimybes papildyti programą papildomomis mokymosi rezultatų kategorijomis, kurios paskatintų būsimą veiklą, susijusią su darbdavio vaidmeniu, o ne tik su darbuotojo vaidmeniu darbo rinkoje.

Studijų programos komitetas turi išsiaiškinti, ar prailginta studijų, reikalingų bakalauro laipsniui įgyti, trukmė netrukdo studentams siekti kvalifikacijos įgijimo, ir ar šis prailgintas laikotarpis, praleistas, studijuojant savo šalies Universitete, neapsunkina studentų mainų su kitais Europos universitetais galimybių, ypač ketinant internacionalizuoti magistro studijų programą Vilniuje.

Dalykų išdėstymas programoje užtikrina reikiamą dėstomų dalykų seką, tačiau tam, kad programa būtų visiškai išbaigta, reikalingi kai kurie papildomi dalykai, ypač pasirenkamieji. Naudojama plati mokymo ir studijuojamų dalykų įvairovė. Praktikos metu studentai mokomi šiuolaikiškai įrengtose mokslinėse laboratorijose, atitinkančiose aukščiausius tarptautinius standartus.

Dėstytojai aktyviai užsiima tyrimais, dažniausiai tiesiogiai susijusiais su studijų programa. Profesoriai ir lektoriai aktyviai dalyvauja nacionalinėse ir tarptautinėse mokslinėse programose,

tokiose, kaip Struktūrinė programa 7, COST, EURECA. Tai suteikia puikias galimybes įtraukti studentus į su nacionaliniais ir tarptautinio lygmens moksliniais tyrimais susijusią veiklą.

Paskaitų auditorijos, laboratorinių užsiėmimų patalpos ir ypač praktinių užsiėmimų auditorijos yra pakankamo dydžio, jų pakanka ir yra šiuolaikiškai įrengtos. Kai kurios laboratorijos atitinka aukščiausius tarptautinius standartus. Visiškai pakanka tinkamų metodinių išteklių: vadovėlių, kompaktinių diskų ir elektroninių knygų bei kt. priemonių.

Studijų programa užtikrina teorinių ir praktinių genetikos žinių įgijimą, tačiau, anot pačių studentų, galbūt reikėtų šiek tiek praplėsti praktinę šios programos dalį. Studentai skatinami dalyvauti įvairiuose mokslinių tyrimų projektuose, jie, savo ruožtu aktyviai dalyvauja moksliniame gyvenime, įskaitant mokslines konferencijas, tezių gynimą ir pan. Vertinimo sistema neišbaigta tik vienu aspektu: nėra kriterijų, pagal kuriuos būtų galima įvertinti individualų darbą.

Programa vykdoma ir administruojama profesionaliai. Aiškiai išdėstyta atsakomybė už sprendimus bei programos įgyvendinimo stebėjimą. Labai šilta ir šeimyniška atmosfera, vyraujanti tarp studentų ir dėstytojų, kaip buvo pastebėta lankymosi metu, įrodo, jog puikiai dirbama ir jaučiamas bendras pasitenkinimas. Programos nuolatiniam tobulinimui naudojamas vidinis vertinimas, tačiau pageidautina, jog visi dalyviai ir socialiniai partneriai dar aktyviau įsitrauktų į programos įgyvendinimą, tokiu būdu dar patobulindami vertinimo procesų efektyvumą.

III. REKOMENDACIJOS

1. Vertinimo komisija siūlytų apsvarstyti galimybes papildyti programą papildomomis mokymosi rezultatų kategorijomis, kurios paskatintų būsimą veiklą, susijusią su darbdavio vaidmeniu, o ne tik su darbuotojo vaidmeniu darbo rinkoje.
2. Studijų programos komitetas turi išsiaiškinti, ar prailginta studijų, reikalingų bakalauro laipsniui įgyti (4 metai vietoje 3, kaip įprasta daugelyje Europos šalių) trukmė netrukdo studentams siekti kvalifikacijos įgijimo, ir ar šis prailgintas laikotarpis, praleistas, studijuojant Vilniaus Universitete, neapsunkina studentų mainų su kitais Europos universitetais galimybių, ypač ketinant internacionalizuoti magistro studijų programą Vilniuje.
3. Geresnės pusiausvyros tarp skirtingų mokymo dalykų pasiekimui, rekomenduojama papildyti pasirenkamųjų mokomųjų dalykų pasiūlą.
4. Prie programos turėtų prisijungti nauji lektoriai, turintys sparčiai besiplečiančios genetikos srities įgūdžių bei žinių, tokių kaip kartų seka, genomo duomenų analizė, transkriptomika.
5. Studentų savarankiško mokymosi sąlygų pagerinimui rekomenduojama prailginti bibliotekos darbo valandas. Studentų laboratorinių/praktinių užsiėmimų metu reikėtų kruopščiau kontroliuoti laboratorinio darbo saugos taisyklių laikymąsi.
6. Aiškesnis turėtų būti ir savarankiško mokymosi valandų pasiekimų įvertinimas.
7. Studijų pasiūlymai, pateikiami kituose universitetuose pagal Erasmus programą, turėtų būti platesni ir suderinami su genetikos programa.
8. Vykdamt genetikos bakalauro studijų programą, reikėtų rasti visų programos dalyvių ir socialinių partnerių aktyvaus prisidėjimo prie nuolatinio šios programos tobulinimo skatinimo būdus.

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