



*Final Assessment Report
of Main Professional Education Program
on Higher Education:*

MASTER'S PROGRAMME ON

'INTEGRATED PLANT PROTECTION'

People's Friendship University of Russia (RUDN)

AGRICULTURAL TECHNOLOGICAL INSTITUTE



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I. Information on accreditation procedure

Subject of accreditation procedure

Educational programme	Degree to be acquired	ETCS	Duration	Form of education	Language of instruction
INTEGRATED PLANT PROTECTION	MASTER	120	2 years	Full-time	English - Russian

Date of on-site visit: 6-9 June 2018.

Panel members:

Julián Cuevas González, Full Professor of University of Almeria; Vice-Rector for International Relations of the University of Almeria.

Pablo J. García Murillo, Tenured Professor of Plant Biology and Ecology, Head of PLACCA research group, Faculty of Pharmacy, University of Seville.

Smirnov Aleksey Nikolaevich, Professor of the Department of Plant Protection of the Russian State Agrarian University - MAAA named after K.A. Timiryazev.

Upadyshev, Mikhail Tarievich, Member of the Russian Academy of Sciences; Head of the Department of Biotechnology and Plant Protection, Chief Researcher of the Federal State Budget Scientific Institution "All-Russian Selection and Technology Institute of Horticulture and Nursery".

II. Panel members report

Introduction: aims, structure and general provisions of the accreditation procedure

DEVA and AKKORK (DEVA: Department of Evaluation and Accreditation, Córdoba, Spain; AKKORK: Autonomous Non-Profit Organization Agency for Higher Education Quality Assurance and Career Development, Moscow, Russia), agencies for assessment, accreditation, and control of the quality of education and career development, have signed an agreement on cooperation in international accreditation of educational programs in the Peoples' Friendship University of Russia (RUDN) (Moscow, Russia). To this end, a panel group was created, consisting of two Spanish reviewers (university professors) with the assistance of two Russian reviewers (university professors).

All members of the group participated in a two-day visit to the university in June 2018. During the visit, meetings and interviews were held with the university's top management officials, the Director of the Agrarian-Technological Institute, students and graduates of the educational program, as well as with employers and teaching staff. Earlier, the University had provided AKKORK with a self-assessment report, which was later translated into English and forwarded to the agency DEVA and international members of the reviewers committee. Evaluation of the educational program by the reviewers is based on the provided written material, additional documents provided on request, and the results of the visit.

Review of the institutional profile of the Peoples' Friendship University of Russia

Russia joined the Bologna process in 2003 and since then has consistently adhered to the basic objectives of the Bologna Declaration at the national and institutional levels. Part of this process was the introduction of a two-cycle system of education at the national level in accordance with the "Framework for Qualifications of the European Higher Education Area". The program for the first cycle usually last 4 years and graduates acquire a bachelor's degree. The second cycle includes two years of study and ends with a master's degree. Graduates can later continue their education to pursue a PhD (PhD - Doctor of Philosophy), and then the Doctor of Sciences. It should be noted that the Peoples' Friendship University of Russia (RUDN) is a pioneer in the introduction of the Bologna process in the educational system of the Russian Federation.

Federal state educational standards define the learning outcomes of each educational program at each level of qualification. The structure and content of the curriculum depends largely on the requirements of the Ministry of Education and Science of the Russian Federation. All bachelor's and master's programs consist of several modules, that is, courses from different disciplinary areas. The educational programs do not focus only on a specific educational area, but offer more general education, such as the humanities and the social sciences. This is especially true for bachelor students.

Peoples' Friendship University of Russia (RUDN) was founded on February 5, 1960 by the decision of the Government of the USSR. On February 22, 1961, the University was named

after Patrice Lumumba - one of the symbols of the struggle for the independence of the peoples of Africa. The Russian language classes at the preparatory faculty for foreign students began in 1960, and at the six basic faculties of the University (Engineering, History and Philology, Medical, Agricultural, Physical, Mathematical and Natural Sciences, Economics and Law) - on September 1, 1961. In 1964, the University became a member of the International Association of Universities (IAU).

Nowadays, the structure of the RUDN comprises 5 main faculties: Faculty of Physics, Mathematics and Natural Sciences, Faculty of Ecology, Faculty of Philology, Faculty of Humanities and Social Sciences, Faculty of Economics, Engineering Academy and 10 institutes: Medical Institute, Law Institute, Institute of Foreign Languages, Agrarian-Technological Institute, Institute of World Economy and Business, Institute of Hospitality Business and Tourism, Academic Research Institute of Gravitation and Cosmology, Institute of Medical and Biological Problems, Academic Research Institute of Comparative Educational Policy, Institute of Space Technologies.

The distinctive features of the educational process at RUDN are:

- ECTS Credit system
- European Diploma Supplement
- Worldwide academic mobility
- Teaching in foreign languages. Up to 800 academic hours of foreign languages learning
- Diploma in translation (2-3 foreign languages)
- Over 1500 courses for continuing education
- All levels of education (master, PhD, DSc, Clinical residency, internship)

RUDN has the right to set its own educational standards (sanctioned by Russian President, 2012).

The University has a personnel team consisting of more than 5,000 employees, among them - about 2,500 teachers, including 500 academics and doctors, more than 1,200 professors and candidates to doctor of science, 57 full correspondent members of the Russian Academy of Science and field-specific academies, 28 Honored Scientists of Russia and 26 full members of foreign academies and scientific societies.

The educational process and research activities of the University are supported by the sufficient infrastructure, material resources and technical equipment. For example, the following indicators can describe the fully computerized library of RUDN:

- Library branches and reading halls in 5 University buildings
- More than 17,000 users
- 1,800,000 copies and library items at the library stock
- Online access to more than 36 foreign and Russian databases
- 90000 foreign literature pieces in 70 languages
- Electronic collections of RUDN professors' publications



- The University has 45 educational and scientific centers and 150 scientific laboratories.

The outcome of the work of professors' and researchers of RUDN includes: 870 copyright certificates, 160 patents of the Russian Federation and 2 scientific inventions, and 84 certificates for computer programs and databases (RUDN intellectual rights).

According to international ratings, RUDN is included in the World Top-500 in the QS World University Rankings. In 2011-2014, in the annual National universities, Interfax and Echo proposed an assessment of Moscow RUDN in a ranking of 4-6th among all Russian universities, and the most internationalized university.

III. Introductory remark

Albeit, currently, there is not an internationally agreed protocol for assessing the quality of the higher educational degrees, it seems appropriate to employ criteria roughly analogous to those that would apply if the evaluated institution were located in the same country as the agency. Therefore, the seven criteria used in this report correspond, with some necessary adaptations, to the structure of the Quality Handbook elaborated to that effect by the Andalusian Agency for University Quality Evaluation and Accreditation (DEVA). Specifically, this evaluation process relies on the last edition of the “Guide for Renewing the Accreditation of University Bachelor’s and Master’s Degrees in Andalusia”.

For each of these seven criteria, it was chosen one of four possible ratings, namely:

- “Fully conform”,
- “Substantially compliant”,
- “Partially compliant”, and
- “Not compliant”.

As applied here, the latter implies very serious shortcomings and might, depending on the criteria in question, originate an unfavorable overall assessment. A rating as “Partially compliant” implies some shortcomings, sometimes severe enough to demand changes in some aspects of the educational process. A “Substantially compliant” rating implies a satisfactory situation; however, there may be some, or even considerable, room for improvement. “Fully conform” corresponds to excellent quality. Therefore, whatever the rating chosen for each criterion, the stakeholders are encouraged to pay close attention to the provided comments and recommendations.

IV. Overall assessment

Comment: After studying the self-assessment report, a vast range of internal documents, and holding extensive on-site meetings with the program’s administrators, teaching staff, students, graduates and employers, as well as with staff of RUDN’s quality management and general leadership, the Panel has a favorable opinion about the quality of the program.

The Masters degree “Integrated Plant Protection” appears to be a nice, solid-built, attractive program, capable to attract international and Russian students searching for a specialization in the field of Plant Protection. A high degree of practical-orientation is observed, which provides graduates with appropriate skills and knowledge. At the same time, the Program seems to be more research-oriented than oriented to forming personnel for the business sector. In spite of that, the employers are satisfied and trust the formation the students receive, so they actively recruit students from RUDN for their companies. Students and Graduates are really satisfied not



only for the knowledge they acquire, but also for the patient and gentle attitude of the professors. They highlight the program's bilingualism as one of the important characteristics of the Master. The Panel was really impressed by the full commitment to quality assurance.

Assessment: "FULLY CONFORM"

V. Assessment of key quality criteria

CRITERION 1. AVAILABILITY OF PUBLIC INFORMATION

Comments

Information about the training program, its development and the results achieved should be public for all interest groups. Although there is available considerable information on the RUDN and the Agricultural Technological Institute web pages, the information related to the Integrated Plant Protection Master is especially scarce and predominantly in Russian language. It would be convenient to provide more information related to this Master's degree in its webpage and an English version of the entire contents of the page, taking into account the special consideration given to international students by RUDN.

The webpage of RUDN Master's courses (<http://www.rudn.ru/ab/magistratura>) shows a large amount of information about different matters related to the academic programs offered at RUDN. Thus, the address <http://www.rudn.ru/ab/?pagec=6306>, contains the rules for admission to the University for the 2018/2019 academic year; the number of places offered; language used in each program, diverse information on the specifics of conducting entrance examinations for students with disabilities and information about the compulsory entrance medical examination. Likewise, the address <http://www.rudn.ru/ab/MagSrokiPriema>, contains information about the reception of the students, including the timing of the formalities required for admission, admission tests, the completion of acceptance of applications for consent to enrollment at each enrollment stage, the list of necessary documents, exam schedule and enrollment procedure. Finally, the address <http://www.rudn.ru/ab/MagSpecList> lists useful directions for master's degree preparation, the list of master's programs, and the list and format of admission tests for the 2018/2019 academic year.

More information about RUDN can be found in the leaflet "Consolidated Information Sheet about the University" given to the Panel at our arrival, that includes the number of degree Programs and those taught in foreign languages as well as Joint Programs with Partner Universities. It also provides information about the total number of students and International Students, with a list of the commonest students' countries of origin. No specific information about the master Program is highlighted in the Consolidated Information Sheet about the University and seems not included among the most popular fields of study at RUDN. A different booklet provided to the Panel contains the rules and conditions for foreign students' admission, with detailed information about the different degrees and their cost, visa, housing, calendar, services, and requirements. In this booklet, the Master Integrated Plant Protection is listed as one taught in English. Despite the above information, the rule is using Russian as the language of instruction for most Degrees.

The webpage corresponding to Agronomy (http://www.rudn.ru/ab/ma_agronomy) gives information, in Russian language, about all the available Master's degrees offered by the Agricultural Technological Institute of RUDN University, and among them the Integrated Plant Protection Master's degree. The webpage informs about the advantages and possibilities of studying at RUDN, the duration of the master courses, as well as the ways to contact the persons in charge, providing postal address, telephone, fax and contact e-mail. The label "Tuition fees" (Стоимость обучения в магистратуре) has a hyperlink that directs us to a webpage (http://www.rudn.ru/sveden/paid_edu) where the content cannot be translated with the on-line translators, since it reproduces an image. Questions for the interdisciplinary exam (Вопросы к междисциплинарному экзамену), which is mandatory for enrolling in the Master, shows another hyperlink (http://www.rudn.ru/files_upload/magistratura/Programmy_2016/ATI/35.04.04_Agronomiya-2016.pdf) that directs us to a pdf file, in Russian language too. It provides additional information about the interdisciplinary exam, gives some recommendations for preparing the exam and shows two programmes; the first one seems to correspond to Agrobiotechnology and the second one to Integrated Plant Protection.

The information contained in the Integrated Plan Protection Master's webpage (<http://www.rudn.ru/ab/?pagec=5035>) is too brief. It has a general description of the program, the entry requirements, the main goals, some skills and expertness that students can get with the qualification, the course codes, the Department to which each course is assigned, information about the Head of the Program, the contact person, and a label called Documents, which includes two hyperlinks: Description of the educational program (http://www.rudn.ru/files_upload/Education/2015/2015-12-05/%D0%90%D0%B3%D1%80%D0%B0%D1%80%D0%BD%D1%8B%D0%B9/SAm+d4_IZR_2015/OOP/OOP_SAm+d4_IZR_2015.pdf) that leads towards a pdf file in Russian, and a new page for the Programs of courses (http://www.rudn.ru/files_upload/Education/2015/2015-12-05/%D0%90%D0%B3%D1%80%D0%B0%D1%80%D0%BD%D1%8B%D0%B9/SAm+d4_IZR_2015/Ucheb_plan/Ucheb_plan_SAm+d4_IZR_2015.pdf) that leads towards another pdf file in Russian that corresponds to an image of a table, making it impossible to use the online translators.

In connection with the Self-Assessment Report (onwards SAR), on pages 3-7, there is information about the official name of the qualification, the branch of knowledge the qualification belongs to, the Center responsible for the qualification, the year the qualification was implemented and the duration of the educational programme (credits/years). Some details on the publication of the qualification in the BOE state gazette are showed on page 6 from the SAR. Likewise, information about the development of the European Diploma Supplement Issuing Procedure is also described. On page 7, a list of regulatory documents on the learning process, internal student rules, and internal protocols in the Master's context, is offered in the webpage: <http://www.rudn.ru/?pagec=4338>, in Russian.

The Complaints Management System is detailed on page 9. The enrollment procedure is explained on page 10. However, following the link indicated at the beginning of section 1.5 (<http://www.rudn.ru/ab/?pagec=5977>), leads to: Page not found (Страница не найдена). The

same happens with a link that corresponds to the enrollment rules (<http://www.rudn.ru/ab/?pagec=5977>), it leads to the message: Page not found (Страница не найдена). On page 11, admission rates for Master's programmes are showed following the link (<http://www.rudn.ru/ab/?pagec=6058>); this page is in Russian and it shows the ranking lists for the master's degrees in each area. Nevertheless, Integrated Plant Protection does not appear in it. We understand that this has already been corrected and that this information appears now on the website of RUDN masters above referred (<http://www.rudn.ru/ab/magistratura>).

Recommendations

RECOMMENDATION 1.- It is strongly recommended that the Master's webpage include a fully developed English version and the relevant webpages and their links be updated. The Master's webpage should provide more information about the courses, the optional/compulsory subjects, the different type of practical classes and the master's fees. It is recommended to centralize and integrate in a single web page the public information available, avoiding PDF format. The document with detailed information about the program, which appears in the Integrated Plant Protection Master's webpage, should also be in English and should include accurate and detailed information on the different relevant aspects of the program, without superfluous information from courses taught in other masters. The credit unit system needs an explanation, as well as the articulation of the degree in the Bologna context.

RECOMMENDATION 2.- It is recommended that the webpage contain more information about the teaching staff. It should provide a link to the Curricula Vitae of professors and lecturers, also for optional courses, since the professors' profile is of interest for potential students. It should also include a brief cv, their main publications or achievements (especially those related to the scope of the Master) and some links to the profiles of the professors in the main databases (Scopus, Orcid, Research Gate, Google Scholar). This information should be provided in English as well if the objective is to recruit international students.

RECOMMENDATION 3.- It is recommended that more detailed information about the Master be provided on the web page. In particular, indicators such as graduation rate, dropout rate, etc., and their evolution over time, the recommended profile for new students, regulation on the Credit Transfer and Recognition System and any other relevant regulation, as well as the evolution of the Master's degree since 2001.

RECOMMENDATION 4.- RUDN University has some accounts in different social networks, such as Facebook, Twitter, Instagram or Vk. It is recommended the use of these social networks to announce and spread information related to this Master's degree

and the creation of a profile for the Integrated Plant Protection Master's degree.

RECOMMENDATION 5. Increase the openness of the program for average users (currently the program is completely open to professors and students) by easier access via the Internet, because there is a difference of informational openness of the program for a user "from outside" and for Master's degree students.

Assessment: SUBSTANTIALLY COMPLIANT

CRITERION 2. QUALITY ASSURANCE SYSTEM

Comments

In general, the Master Program management considers and values the importance of the Quality Assurance System. Moreover, at the top of the system developed by RUDN is the Federal system of quality assurance, which acts as a safeguard.

The Master's degree has an Improvement Plan, periodically revised and updated, which includes specific actions related to the analysis and review of results. Likewise, it has launched actions in order to carry out the improvement proposals derived from the monitoring process. Instruments and ways to improve the Program seem in practice.

On page 14 of SAR, there is a description of the Quality Assurance System (QAS hereafter). According to this document, RUDN has a QAS integrated within the strategic development plan of the University, which indicates the importance that the QAS has for this University. Furthermore, it must be acknowledged that an education of high quality is one of the main goals of the Federal education policy in Russia. In this way, the RUDN Learning Quality System includes four components:

- **QUALITY POLICY.** The webpage: <http://quality.rudn.ru/?pagec=878> informs about the main principles that determine the Quality Policy, also in English. The Quality Policy functions are based on scientific and systematic standards. It is strictly formalized and can be traced in documents and in practice through all the principal educational processes. The Quality Policy is developed on curricula and programmes in each department, institute or the University as a whole. Likewise, the quality management is assured in compliance with the elaborated strategic and operational plans. The policy is continually upgraded, yearly, and is persistently controlled according to selected criteria (process performance indices) and the internal feedback mechanism including regular sociological surveys. Finally, the webpage informs that RUDN education

quality data are available for public inspection and are published at the end of each academic year.

- **QUALITY MANAGEMENT MODEL.** On the webpage: <http://quality.rudn.ru/?pagec=883>, it is possible to read a description of the Quality Management Model, which is based on W.E. Demming ideas. It should also be noted that, although it is possible to access this page in English, the content of the page that appears following the hyperlink is different from the one in Russian. Moreover, part of the content in Russian cannot be translated online because it corresponds to an image. In any case, RUDN Quality Management Model interconnects criteria, and technological processes are used. Two qualitative components are distinguished in the RUDN training quality system: the level of knowledge transferred by the University and the level of perception of knowledge achieved by the students. To these, another ten criteria subordinated to the requirements of the Federal quality assessment system must be added.

In short, the Quality Management Model allows to comprehensively monitor the effectiveness of the university's activities in the field of education in order to improve the contents, the organization of the training process and the efficiency of all processes of communication and perception of knowledge.

- **QUALITY ASSURANCE SERVICE.** It carries out internal as well as external quality audits and develops its activity under ISO 9000:2000 and the European Quality Assurance Standards.

- **QUALITY ASSURANCE PROGRAMME.** Pages 14-15 of SAR outline the main ideas of the Programme. This text informs that the implementation of the Learning Quality Programme is discussed in different contexts: the University Management Committee, the Rector's Office and RUDN Academic Council. The annual report describes the key progress as well as flaws, ways of correcting them, and actions to be taken to improve learning quality in the next academic year. Consequently, the Academic Council takes decisions, which are to be approved under the Rector's order. Finally, the report is published in the University's website (<http://quality.rudn.ru/?pagec=884>). A Vice Rector for Academic Affairs is in charge of supervising the right functioning of QAS.

Furthermore, there is a feedback system to discover the limitations of certain processes and find out how they can be improved. This system is based on different meetings among diverse academic instances. In addition, as indicated on pages 15-16 of the SAR, the University has an agency that participates actively in the processes related to the quality of education, and is in regular contact with the Rector. On page 16 of SAR, the section 2.2 outlines the procedure for Updating the Education Quality Assurance System. A book about the procedure for accreditation and QA programs was published.

In addition, RUDN website has a section titled "Open Dialog" (<http://www.rudn.ru/opendialog>), where students, employees, and teaching staff can use a form to submit suggestions or complaints (clearly substantiated, however) regarding the quality of education. There is personal implication of the Rector and/or the Rector's office, which does not seem very operative, although this "Open Dialog" is mandatory according to Russian Law. Therefore, the information provided in the SAR and on RUDN webpages, indicates that the QAS of the RUDN University satisfies all the necessary requirements.

Concerning the evaluation system, a list with a total number of 28 indicators was initially proposed from which 15 were selected. Critical values for these indicators have been established. In section 2.3 of the SAR, on page 17, under the heading ‘Programme update plan based on the Quality Assurance System data Integrated Plant Protection’, there is a graph with the score of these 15 indicators, illustrating the Master’s performance. Two of the indicators refer to research funding and show low scores, below the critical values. Besides, Indicator 4 (number of publications indexed in the Web of Science database per academic staff member) and Indicator 14 (Students’ satisfaction with education quality) are rated with lower scores than the rest. Therefore, plans for improving these values have been implemented. On page 17, it is indicated that: The department is currently working on two grants to improve Indicators 10 and 11 funding ‘The development and optimization of existing diagnostic methods for the bacterial spot pathogen in cucurbits’ and ‘The assessment of insecticide toxicity of plant essential oils to various crop pests’. Not only values reached for each indicator are published, but they also project target values to be reached next year. A comparison among the different Master Programs taught at RUDN highlights the strengths and flaws of every Program.

A survey among students every three years (Master lasts only 2 years) is conducted.

Recommendations

RECOMMENDATION 6.- It is recommended to take actions in order to correct the low scores achieved in Indicators 4 and 14.

RECOMMENDATION 7.- It is recommended to provide public information about any plans to improve the Program.

RECOMMENDATION 8.- Satisfaction surveys among students should be more frequent and the participation rate should be reported, to assess the reliability of the results.

Assessment: FULLY CONFORM

CRITERION 3. DESIGN, ORGANIZATION AND DEVELOPMENT OF THE PROGRAM

Comments

Considering the available information on the organization and development of the Master's educational program, the Master Program is well designed and the contents, as well as its distribution over time, are well structured. Entrepreneurs and heads of institutions showed their satisfaction with the Master's content and organization. Likewise, all the graduates and students interviewed showed their agreement with the qualification received. Nevertheless, some small problems have been detected and are indicated below.

There is a link in the Master's webpage (http://www.rudn.ru/files_upload/Education/2015/2015-12-05/%D0%90%D0%B3%D1%80%D0%B0%D1%80%D0%BD%D1%8B%D0%B9/SAm+d4_IZR_2015/OOP/OOP_SAm+d4_IZR_2015.pdf) that refers to a pdf document, which provides significant information about the Master's features. The document is in Russian and shows the development of the competences for each course of the Master; there is also a table (section 6.1) with a list of the professors participating in the Master courses as well as information about the subjects they teach, the University in which they graduated, their position, qualification and scientific-pedagogical experience. Other table (section 6.2) lists the material and the technical support available for the development of the different courses and another table (section 6.3) indicates the methodology used in the different courses; some examples of questions for exams and some topics to develop the work of the Master's thesis are also included.

In response to the request made during the visit to RUDN, the Director of the Master provided us with two documents that completed the information contained in the SAR. The first one was a Curriculum for 2017-2018 Academic Year, approved by the Vice-Rector of Academic Affairs and dated on 15/07/17. This document contains all the Master's disciplines, separated into basic and elective, organized in the corresponding units and linked to the department responsible for them; it also shows the duration of the courses, their corresponding credits, the type of teaching, the planned evaluations and the final work of Master and its defense. The other document is an annotated list of the different courses taught in the Master, with a brief comment about their contents. Although a short summary of the content of each subject and the year and semester in which they are taught was provided, a more detailed Program for each course should be provided in the web.

During the interviews, it was possible to verify that the competences and skills provided by this Master have been well received by entrepreneurs and heads of institutions. They reported that part of the Master's practical works are carried out in these companies and organizations, with satisfaction on both sides. These employers emphasized the easy communication with the

Director of the Master. Students and graduate students also showed their satisfaction with the master's organization.

Nevertheless, the Panel believes that some small problems still persist, like the need to explain the equivalence of credits to the European credit system and the lack of information about the articulation of the degree in the Bologna context. More importantly, there is certain bias in the content of the courses. While the study of bacteria and viruses is widely developed, the study of fungi is not well covered. In this respect, it should be noted that fungi is responsible for important diseases, and responsible as well for the highest yield losses in Russia according to the information provided. In addition, and although the course Biological Methods of Plant Protection covers it in part, pest management should be developed more deeply, especially for organic cultivation. We wonder why not to rename (and refocus) this course to Advanced Pest Management as it is usual in Master's degrees in this field. Nematodes, recently included in the Program according to the interviews, and weeds should be given more attention. It seems that these important topics are offered as disciplines that can be selected by the students, who have to choose just 1 out of 2 in 4 Units. Protection against frost and in general against bad weather, so far marginally covered, should be more developed in a wider context. Scarcely a reference about the influence of environment and weather on pest development could be noted. Abiotic stress could be added at least in a general course of Plant Production Principles, such as the one titled "Innovative technologies in agronomy". Finally, the Panel thinks that the orientation given to this Master, emphasizing integrated plant protection is appropriate, despite the comments that in Russia most farmers still rely on chemical control for pest and diseases.

A brief pilot analysis of Master degree programmes (training and methodology complex) in the "Integrated plant protection" specialty was conducted. It is given in the table.

Name	Some revealed features	Assessment
Forecast of pest and agricultural crop diseases development	Everything is correct	Substantially compliant
Quarantine	The methods of detecting quarantine diseases and pests are given constructively and in very good faith	Substantially compliant
Information technology	The main positions of the training and methodology complex are given very briefly	Compliant, but requires some work
Mathematical modeling and design	Correct	Substantially compliant
Plant immunity	Is given one-sidedly, the mechanisms of protective reactions are not considered, however, this may be the peculiarity of the teaching in	Compliant, but requires discussion

	RUPF (Russian University of Peoples' Friendship), directed along the applied path	
History and methodology of scientific agronomy	There is no training and methodology complex at all, but there is a rating - a very strict one. Points are removed for being late	Compliant, but requires some work
Biotechnology in plant protection	The general text about the structure and advantages of modern biotechnology is given, but the training and methodology complex as such are given very briefly.	Compliant, but requires some work
Virology	There is a lot of textual information, but there is practically no standard training and methodology complex in full.	Compliant, but requires some work
Management and marketing	Everything is done in regular mode	Substantially compliant
Phytosanitary risk analysis	A general structure is presented, it differs from the approaches developed in monographs and textbooks of the All-Russian Research Institute of Plant Quarantine for different years.	Compliant, but requires discussion
Bacterial diseases	In regular mode, but the final part of the training and methodology complex is overloaded with general information about bacteria and bacteriosis	Substantially compliant
Biological method of plant protection	Regular training and methodology complex	Substantially compliant
Plant protection in organic farming	Regular training and methodology complex	Substantially compliant
Instrumental methods for detecting hidden infection	Regular training and methodology complex, but many of its sections are too brief	Compliant, but requires some work
Molecular methods in the diagnosis of plant protection	Regular training and methodology complex	Substantially compliant

Nematode diseases	Regular training and methodology complex, but many of its sections are too brief	Compliant, but requires some work
Forecast of pest and disease development	Regular training and methodology complex	Substantially compliant
Harvest insurance support technologies	Regular training and methodology complex	Substantially compliant
Phytosanitary examination	There is a regular training and methodology complex, but many of its sections are given too briefly, while individual sections (for example, about mushrooms) are given in too much detail. Training and methodology complex is built somewhat eclectic, the correspondence between the tasks and the structure is lost	Compliant, but requires some work
Formation of conjugate pathological systems	Regular training and methodology complex	Substantially compliant
Population genetics	The pathosystems and their molecular genetic bases are considered very correctly, but as regard to them, plant protection means are given too briefly.	Compliant, but requires some work

It follows from this table that part of the courses is substantially compliant with the basic requirements for the purpose and structure of training and methodology complex, part of the courses requires discussion and revision.

Recommendations

RECOMMENDATION 9.- It is recommended that the study of diseases caused by fungi and pest management in organic cultivation be more developed, as well as some other important topics.

RECOMMENDATION 10. To make the programmes more targeted, individual for masters (use more widely the option for programme modification for individual master's

degree programmes and thesis works).

Assessment: SUBSTANTIALLY COMPLIANT

CRITERION 4. ACADEMIC FACULTY

Comments

The information provided is limited, unwieldy and a bit difficult to get. Clarity on the main aspects about the teaching staff is necessary for an accurate assessment. Some important components, such as the coordination process, seem missing or complicated to find as explained below.

With regard to the availability of coordination criteria for the training program for the different subjects, no references were found indicating how the practical classes are coordinated, nor there is any information on how the supervision is carried out. A list of professors in charge of the internships is provided. Nonetheless, the criteria for the selection are absent. After the interview with the Master's Director, it became clear that the coordination of the internships is in the hand of the Master's Director. In any case, this matter would be regulated by RUDN QAS.

The information related to criteria to select the teaching staff who will be in charge of supervising Ms. Sc. Theses is also missing

At a first glance, the teaching staff seems, according to the information received, short: only 5 Professors, 7 Associate Professors, 6 Assistant Professors and 2 PhD for a 2 year Master. This fact not only affects the teacher's workload but also the quality of the degree, in the sense that they might be forced to teach topics far from their expertise and/or not cover well enough some fields of plant protection. This is a weakness for the Program that could be solved hiring young brilliant professors in the relevant areas.

According to the information received at RUDN, the selection of new professors takes into account the results published in prestigious Journals and the opinion of the graduating students. Besides, although some teachers show excellent profiles, some others do not appear in the most common databases. In the interview with the staff, they told us that they usually publish in scientific journals in Russian, and that is the reason why some of the aforementioned professors fall outside the scope of the main international databases that measure research quality. This does not mean that they do not have merits to develop the skills required by the course they teach. The Director of the Master described the selection of the teachers as quite rigorous, fulfilling the existing requirements of RUDN QAS although, in this context, quality of publications is capital. However, the fact is that the qualification of these lecturers does not appear in the most relevant citation databases, although these databases are considered indicator

variables in RUDN QAS and, also, they is a common resource for students and colleagues to select postgraduate studies for them or their students. In this respect, the CV of all the teachers involved in the Master should be made easily available for students and other stakeholders.

During the visit, the Panel learnt that the most common size of research groups is relatively small (many are formed by only 5-10 people), making it more difficult getting external funds for research.

The salary seems to depend to a great extent on personal performance. Good performance of professors is incentivized and rewarded by a system based on bonuses that depend on different components. There are explicit conditions for tenure and also for the contracts signed by full professors. The adherence to good results is reinforced thanks to the goals set by the contracts signed every January. A warning system is also established to warn professors to improve performance.

University brochures inform that from a faculty number of 1,700 professors at RUDN, 200 per year are offered mobility. The number of professors carrying out international activities of collaboration seems limited, as it is the number of bilateral agreements offered for mobility to the students (Thessaloniki in Greece and Brazil and Ecuador seem to be the exception). In addition, it seems that none of the teaching staff members works for a private company in the phytosanitary or agricultural sector. However in the interview with the entrepreneurs and heads of institutions, they showed that there was a good and fluid collaboration between RUDN and their companies. Furthermore, on page 19, section 3.3 of the SAR, it can be read: *'Foreign experts are involved in teaching the Master's programme'*. However, in the aforementioned report there is no information about those experts or the activity developed by them into the Master context; although, among the Master's professors interviewed there was an Iranian professor expert in cereals.

In relation to the Ms Sc Thesis, it seems that there is a list of topics, elaborated by the teaching staff and offered to the students in order to choose the final work or Master Thesis. Nevertheless, no public information is available on the details related to the preparation of the list and on the rules and priority of the students in choosing the topic.

Recommendations

RECOMMENDATION 9.- The number of lecturers should be increased; this will provide more flexibility to the programme and will reduce professors' workload. Participation of invited professors is strongly recommended as it would have a positive impact on teaching staff, reducing the number of credits taught for teachers, introducing different visions of the problems and providing contacts with other universities, research centers and companies. International mobility may represent an opportunity for this. This increase in the number of teachers would also improve the plurality of topics for the final Ms. Sc. Thesis.

The work load should be balanced between the lecturers (for example, the work load

of E.N. Panin is 22.4% of the total work load, while for E.V. Romanov - 3.5%).

RECOMMENDATION 10.- It is recommended that the information available to students includes (1) how the assignment of internships to students and tutors is performed, (2) the organization of theoretical and practical classes, and the description of the coordination process, (3) the procedure for enacting a list of scientific topics for the Ms Sc Thesis and the assignment of topics to students and tutors. This information should also be included in the SAR.

Assessment: SUBSTANTIALLY COMPLIANT

CRITERION 5. INFRASTRUCTURES, FACILITIES AND RESOURCES

Comments

In general terms, RUDN offers infrastructures appropriate to the needs of the students taking this Master. Nevertheless, there are some doubts about the availability of equipment of several specific laboratories for some of the disciplines developed in the Master. Services provided to the students for orientation and to graduates for job search seem correct and useful according to the opinion of students, graduates and employers. Students have also academic and professional guidance services fitting the characteristics of the degree and appropriate information actions have been developed.

The SAR points out (page 39) that the following resources are available: 2 lecture halls, 4 scientific practical laboratories (an immunity laboratory, a research laboratory, a biotechnology laboratory, and a plant micro clonal propagation laboratory), 4 seminar rooms, 2 computer rooms, and 2 foreign language rooms. Besides, it indicates that the classrooms have modern multimedia equipment (projectors, interactive whiteboards, and multimedia devices) and Internet connection.

Moreover, the Panel visited RUDN facilities. Some of the laboratories visited presented nice modern equipment of high level, although they were mainly laboratories related to food sciences, rather than laboratories related to the disciplines linked to the evaluated Master. The Panel was informed that the source of funding was a H2020 project and, although equipment was located in the facilities of a different department, potential users were extended to professors of the Master. For reasons of time the Panel could not visit the experimental plots where the field works are carried out.

In addition, library resources are mentioned in the SAR (page 39). An astonishing amount of 1,800,000 items is part of its offer. Each student has individual unlimited access to one or more electronic library systems that contain all titles in the required reading lists of the

subject/module/practice/internship study programmes throughout the study period, and also in some holiday periods. According to a library brochure that was provided to the Panel, RUDN library offers 873 seats and a complementary co-working area with capacity for 100 places, where students can work, study and improve their skills. Likewise, the library has subscriptions for more than 300 scientific journals, more than 50 bibliographic database and 6 electronic library systems. In the same way, RUDN library technicians offer multiple services to teachers and students. The Panel checked that the different platforms offer free access to a wide range of resources, main Journals on Plant Protection included. A unified access portal for accessing all scientific information was implemented at RUDN (Lib.rudn.ru)

The faculty building has a system of wireless Internet connections used during the visit. Also, RUDN has an Information Technologies Laboratory related to the Educational and Scientific Information Library Center, which cooperates with the educational programs offered by RUDN.

The SAR also states (page 21) that for every subject in the programme students may consult the professors in their office hours. The consulting schedule can be found on the chair's information board and in the teachers' personal pages of the learning portal. Likewise, students are offered opportunities for taking part in artistic/professional events and research opportunities at each stage of the Master's programme, in particular, within the Project 5-100. Such Project includes mobility actions, competition for individual financial support for RUDN students participating in international events in science and technology, the competition of student research works prepared in RUDN Scientific Clubs and a number of research activities and conferences hosted by the Agricultural Technological Institute. An annual meeting that takes place in February and is organized by the Faculty and graduate students, seems to contribute to a warm, nice learning environment.

Furthermore, additional classes are offered to the new students whose background education lies outside of the master's field, so that they can master the major subjects of the Programme. Also, students with disabilities and health impairments are entitled to equal access to the material and technical resources in forms that are adjusted to their health impairments. In the same manner, the SAR states (pages 8-9) that the RUDN Internship and Student Employment Department, which maintains close contact with a wide range of employers, provides information on practical classes, training courses and jobs offered by employers. The employment service supposedly has agreements with hundreds of companies for facilitating a job (partial time and occasional too) to students, with emphasis in those coming from other Russian regions. According to former students, getting a job related to their education took less than a year, although the Panel interviewed a small and non-random sample of graduates. The aforementioned department also has psychologists who advise students on issues related to job search. It further informs about Graduate adaptation and employment activities and, also, cooperates with employers to organize presentations, seminars, conferences, and career fairs. In the interview, both students and graduates expressed their satisfaction with the services provided by the University.

Lack of financing of R&D should be also noted. In total, in 2017, the R&D financing in the RUDN made RUB 11.5 Mio, expected financing for 2018 and 2019 - RUB 7 and 6 Mio,

respectively, that is very insufficient with the R&D income of RUB 230-420 Mio. The R&D on the integrated plant protection is also financed lower than the boundary of the band of normal achievements.

Recommendations

RECOMMENDATION 11.- It is recommended to provide more laboratories assigned to specific areas of Plant Protection (entomology, pathology, virology...), and improve the equipment of other laboratories used in this Master. It would be appropriate to include in the SAR information about available funding for improving the infrastructures used by this Master's degree and be more precise about the laboratories that are used in the classes of the Master and their equipment.

RECOMMENDATION 12.- Increase fund-raising for R&D and Students' Scientific Research (if possible).

Assessment: SUBSTANTIALLY COMPLIANT

CRITERION 6. LEARNING OUTCOMES

Comments

According to the information provided, all the aspects related with learning outcomes are reasonably well developed.

The scoring system of the Master is the same as that used in RUDN, which is a cumulative 100-point scale (see page 33, SAR). The score is accumulated for doing some activities, such as practical activities, formative performance assessment, and controls (final and interim). In this system, a unit is considered completed when 50% of the potential points have been reached. Nothing is said about controlling students' attendance to classes, nor the associated score if such control is achieved. The educational activities must be completed within the deadlines specified in the programme. Students who fail are given an opportunity to master certain units/topics, and the points accumulated by each student in the term control are converted to an ECTS grade.

Besides, the Integrated Plant Protection Master's webpage contains the links to the different courses offered (<http://esystem.pfur.ru/course/index.php?categoryid=408>). The webpage of each course includes a file: 01. YMK. The file is written in Russian and includes different details of the evaluation system for that course. It shows the different ways for the evaluation of the competences: oral interview, homework, calculation and graphic work, written tests, testing, discussions, and the way that the control works will be developed.

Finally, on pages 34-35 of the SAR a detailed list of assessment criteria of the Graduate Qualification Work are developed. The students have very limited time to present their results in the Ms Sc Thesis: only 10 minutes. However, no complaints were expressed during the interviews to students. Accordingly, on page 13 of the SAR, it is stated that ‘no complaints or negative feedback on educational and extracurricular student activities have been received from students’. Besides, during the meetings with the students and graduates, they considered adequate the evaluation system employed in the Master. Similarly, the employers expressed their satisfaction with the skills acquired by the graduates, according to the work they developed in their companies and institutions.

Therefore, it seems that the evaluation system allows a reliable certification of the students’ acquisition of competences.

Recommendations

RECOMMENDATION 13.- It is recommended, in order to increase the students’ possibilities of finding a suitable job, to report the score obtained in external practice activities; especially for agricultural companies and enterprises, this score may be an endorsement of the student’s capacities.

RECOMMENDATION 14.- It is recommended that students be given more time to defend the Ms. Sc Thesis, since 10 minutes is too short; having more time would provide more evidence for a correct evaluation. Students should be encouraged to present the results of their Master theses in international meetings, in order to check the real interest that their work arouses in a more general context.

Assessment: SUBSTANTIALLY COMPLIANT

CRITERION 7. SATISFACTION AND PERFORMANCE INDICATORS

Comments

According to the available documentation, most indicators of satisfaction and performance seem well developed. Thus, satisfaction surveys’ results on the teaching staff activity are adequate, students are satisfied with the academic and professional orientation services related to the degree and the evolution over time of the academic indicators assessment is appropriate to the type of students and the characteristics of the training program. Nevertheless, information about other aspects, such as those related to external practices, internships or graduates, is not sufficient. The assessments of students, professors, graduates and

employers of the satisfaction with the training program are taken into account in the degree's improvement.

In relation to the facilitated data, an increasing success in the last three years is evident, although data from more years would be needed to establish a tendency.

Concerning the sustainability of the degree, it is apparently correct, but the Master needs to be more open to other countries, especially to the European Union and to increase the number of students from the European region.

Finally, the assessment of the indicators on graduates' labor market outcomes seems suitable.

Reports and comparative survey analyses concerning satisfaction and performance are carried out by the Department of the Educational Policy Office and the Management of RUDN, and according to page 41 of SAR, they are published in 'FEEDBACK OF THE INNATRAVSKI SYSTEM OF QUALITY' webpage (<http://quality.rudn.ru/?pagec=886>). The page is in Russian and it informs about the main principles and the feedback system that fundament RUDN System of Quality. Also, this webpage shows several hyperlinks that correspond to other documents related to the analysis of different surveys. They have been classified in four categories: students, graduates of RUDN, teachers and additional surveys. All of them are in Russian and they report different surveys in the context of the entire University. There is no information that refers exclusively to the evaluated master, only some scattered data with the opinion of students of the Agricultural and Technological Institute.

Thus, in the file COMPARATIVE ANALYSIS OF RESULTS OF SOCIOLOGICAL RESEARCH " ESTIMATION OF STUDENTS OF QUALITY OF EDUCATION IN PFUR " STUDENTS HELD IN 2004/2005, 2007/2008, 2010/2011, 2012/2013 AND 2015/2016 UCH. Years (СРАВНИТЕЛЬНЫЙ АНАЛИЗ РЕЗУЛЬТАТОВ СОЦИОЛОГИЧЕСКИХ ИССЛЕДОВАНИЙ «ОЦЕНКА СТУДЕНТАМИ КАЧЕСТВА ОБУЧЕНИЯ В РУДН», ПРОВЕДЕННЫХ В 2004/2005, 2007/2008, 2010/2011, 2012/2013 И 2015/2016 уч. гг) (<http://quality.rudn.ru/file.php?id=416>) it is stated that the rate of satisfaction with the equipment of computer and office equipment in the Agricultural and Technological Institute is 67.1%, or that the greatest assessments for laboratory equipment and practical training were given by students of the Agrarian-Technological Institute (79.7%). But this information is not readily available and does not refer specifically to the evaluated master. As explained before, it seems that surveys among students are performed every three years; a shorter interval is preferred considering this Master Program lasts two years.

Similarly, following the hyperlink: COMPARATIVE ANALYSIS OF RESULTS OF SOCIOLOGICAL RESEARCH "ESTIMATION OF QUALITY OF EDUCATION WITH EYES OF TEACHERS OF PFUR" In 2005/2006, 2008/2009, 2012/2013, 2014/2015 and 2017/2018 academic year (СРАВНИТЕЛЬНЫЙ АНАЛИЗ РЕЗУЛЬТАТОВ СОЦИОЛОГИЧЕСКИХ ИССЛЕДОВАНИЙ «ОЦЕНКА КАЧЕСТВА ОБРАЗОВАНИЯ ГЛАЗАМИ ПРЕПОДАВАТЕЛЕЙ РУДН» В 2005/2006, 2008/2009, 2012/2013, 2014/2015 и 2017/2018 уч.гг.), there is a pdf document in Russian, that offers information about a comparative analysis on the quality of education, at RUDN, according to the academic staff. As

mentioned in the previous paragraph, the context is the entire University. There is no specific report exclusively referred to the evaluated master and, with difficulty it is possible to find some data related to the Agricultural Technology Institute. For example 'Data on the deterioration of the quality of equipment' shows that the percentage of unsatisfied students increased in the Agrarian and technological institute. The note 'Today a special level of dissatisfaction with computer equipment and office equipment caused in Agrarian and technological Institute' shows that the indicator decreased by 19.3%, but no information about the assessment and satisfaction with the professors of the Integrated Plant Protection Master was found. The mentioned documents reproduce to some extent the information provided by QA.

Therefore, in the aforementioned documents there is no information that may reveal the assessment and satisfaction of students, teachers, administrative and laboratory staff, graduates or employers, in relation to the evaluated Master.

On page 42 of SAR there is a table with the percentage of satisfaction with learning quality at RUDN among students of the Agricultural Technological Institute. It shows a positive trend since 2010. The top category on the table has increased from 56.4, in 2010/2011, to 77.2, in 2015/2016. Nevertheless, these data correspond again to the whole Agricultural Technology Institute, not to the Integrated Plant Protection Master. In spite of all these objections about the difficulties and shortage of information about the level of satisfaction by different groups, according to the interviews with students and graduates, their level of satisfaction in relation with the assessed degree is high. For example, the graduates interviewed would recommend this Master to their colleagues. This fact is a relevant indication of the level of satisfaction with the assessed degree.

Concerning the Satisfaction surveys about professors and teaching staff, the only data from the Agricultural Technological Institute appear in a table on page 42 of SAR. It shows how the satisfaction level is high and has been increasing since 2012. Thus, in 2012, 72% of the professors were in the category of the highest satisfaction, while in 2017, this item reached 82%. In contrast, the percentage in the category of the lowest satisfaction has been very low, 9.1% in 2012, and plain 0% in 2017. However, these data are for the whole Agricultural Technology Institute, again not for the Integrated Plant Protection Master.

As mentioned previously, there is no data reported on students' satisfaction with the teaching staff of Integrated Plant Protection Master. Nevertheless, in the interviews, students and graduates showed their satisfaction with the teachers that participated in the Master. Besides, there are no data on satisfaction with the tutors of external internships. The survey about internships tutors is not performed or documented according to the information provided. Nonetheless, the students and graduates interviewed indicated their satisfaction with the external practice classes and internships. There is no explicit criteria for the selection of these tutors, the Master's director is in charge of this selection.

With reference to the students' satisfaction, in the provided documentation there are no data on satisfaction with academic and professional guidance services related to this Master's degree. However, in the interviews, students and graduates showed their full satisfaction with the professional and academic guidance services. In relation to the facilitated data, an increasing success in the last three years is evident.

On employment matters, page 43 of SAR shows a table entitled: ‘Employment statistics for the recent 3 years’ with the name, graduation year, position and organization of 11 graduates. At least 10 of them work for Universities or Research Centres. Most of the students seem to be employed at their own Universities: some of them in RUDN; some others as lecturers in foreign countries. This confirms that the program is more research-driven than oriented to forming personnel for private companies, despite the fact that employers are satisfied and trust the education that students receive and they actively recruit students from RUDN for their companies.

Concerning Master’s sustainability, from page 6 of SAR, the first enrolment in the programme took place in 1998 and the European Diploma Supplement Issuing procedure started in 2008 (in some slides projected during the visit, 2001 is mentioned as the commencement of the Master’s Degree, having reached the highest standards of quality according to RUDN criteria in 2014). Furthermore, the Agricultural Technology Institute from RUDN University is a very prominent centre in the field of Agricultural disciplines, which arouses interest in a large number of students and professionals in agricultural sciences. In any case, although this Master’s Degree or its antecedent started in 2001, the information provided is only for the last 3-5 years and scattered.

Since its beginning, most of enrolled students belong to Russia Federation, however a portion of the students, around 30%, come from other countries, specially Africa, Latin-America and Asia, a characteristic feature of RUDN that positively affects the Master’s sustainability. RUDN has reached the position 104 in the ranking for category of International Students. Nonetheless, the number of bilateral agreements with foreign Universities seems short and the international mobility for the students of RUDN is limited. It is striking that despite the success of the Master’s Degree, the number of students does not increase and remains more or less stable (around a dozen, in other documents 18 students). This is more surprising since several employers expressed they will be in need of more specialists for their companies in the coming years.

Recommendations

RECOMMENDATION 15.- It is recommended that the study of the level of satisfaction with the Agricultural Technological Institute, includes all the years available, to assess evolution over time. The comparative survey analyses should contain specific information referred to the Integrated Plant Protection Master about graduates and students satisfaction with academic and professional guidance services and other aspects of the Master’s degree.

RECOMMENDATION 16.- It is recommended to take measures to increase the number of students and attract some students from the European Union. For that purpose, the Master’s degree should be publicized more widely, with explicit reference to the companies involved in the Master. Signing more bilateral agreements with foreign Universities and promoting mobility for students and staff could also be appropriate measures.



RECOMMENDATION 17.- It is recommended to take measures so that students have a better knowledge of the subject-related literature: journals, websites, etc.

Assessment: SUBSTANTIALLY COMPLIANT