## Annex N

# Subject Benchmark Statement of Forestry I and II Cycles of Higher Education VI and VII Cycles of the National Qualifications Frameworks (NQF)

## I. Introduction

The Subject Benchmark Statement of Forestry represents an academic education standard which defines the minimum requirements for learning outcomes, as well as the teaching, learning and assessment methods, resources, and other essential characteristics necessary to achieve them, for higher education programmes in Forestry at the first (Bachelor's) and second (Master's) levels. The document is based on the National Qualifications Framework of Georgia, the European Higher Education Qualifications Framework, the European Qualifications Framework for Lifelong Learning, labour market requirements, national and international standards, best practices, and legislative requirements.

Compliance with the minimum learning outcomes defined by the Subject Benchmark Statement is mandatory for all institutions offering Bachelor's and Master's degree programmes in Forestry. However, to promote innovation, diversity, and flexibility, institutions retain full autonomy over the detailed content of their programmes and the methods of delivery, including the development of additional learning outcomes beyond the established minimum. This Subject Benchmark Statement sets out the minimum requirements and provisions that must be adhered to by all higher education institutions implementing, or planning to implement, Bachelor's and Master's degree programmes in Forestry. The content and structure of these programmes, along with the teaching and assessment methods, are determined by each institution in accordance with Georgian legislation and the specific regulations established within its framework.

The aim of the Subject Benchmark Statement is to promote the development of Forestry higher education programmes that meet national needs and align with international standards; to support the adoption of modern teaching, learning, and assessment

methodologies; to ensure international recognition of graduates' qualifications and enhance their mobility; and to foster the development of competences that enable graduates to continue their studies at the next level of higher education, pursue professional development, successfully enter the labour market, and achieve career advancement.

#### Familiarization with this **Subject Benchmark Statement** is recommended for:

- Academic, invited, and administrative staff of higher education institutions involved in the development, implementation, and delivery of Forestry educational programmes
- Members of accreditation, authorization, and appeals councils engaged in evaluating educational programmes, assessing their compliance with accreditation standards, and making related decisions
- Individuals seeking to enroll in educational programmes in the field of Forestry
- Students interested in understanding the knowledge, skills, and competences they will acquire upon completing Bachelor's or Master's degree programmes in Forestry
- Employers seeking information about the competences of graduates from Bachelor's and Master's programmes in Forestry

The main regulatory documents of the field are:

- The National Forestry Concept of Georgia;
- The Forest Code of Georgia
- Subordinate legislative acts derived from the Forest Code of Georgia;
- The Law of Georgia on the System of Protected Areas;
- Subordinate legislative acts derived from the Law of Georgia on the System of Protected Areas.



In English, the title of the Subject Benchmark Statement is **Subject Benchmark Statement of Forestry.** 

The validity period of this Subject Benchmark Statement is seven years.

# II. Description of the Field of Study

Forestry is an applied scientific discipline focused on the study and management of forests—an essential component of the biosphere and a fundamental element of the geographical landscape. It encompasses all areas and activities related to the sustainable use, management, protection, restoration, cultivation, conservation, and improvement of both natural forests and artificial plantations, with the goal of maintaining and enhancing their ecological, economic, and social functions.

Modern forestry is grounded in a broad range of fundamental and applied natural sciences, including forest science, botany, dendrology, plant physiology, soil science, and ecology. In addition, it is closely connected to disciplines within the social, political, and economic sciences.

A core objective of forestry education is to prepare specialists capable of addressing the complex challenges facing forests worldwide. By integrating scientific knowledge, practical skills, and socio-economic perspectives, forestry education fosters a comprehensive understanding of forest ecosystems and equips students with the tools necessary for their sustainable management and conservation.

The aim of the Bachelor's programme is to prepare graduates with broad knowledge in forestry, including forest management, protection, restoration and renewal, and the principles of sustainable forest use. Graduates will also understand the mechanisms of planning and managing protected areas.

The Master's programme aims to develop graduates with deep and systematic knowledge of forestry, encompassing forest management, protection, restoration, renewal, and sustainable forest use. Graduates will be equipped to generate innovative and original solutions for the sustainable management, rational use, regeneration, and conservation of forest resources and biodiversity, as well as to address specific forestry-related challenges. The competences acquired through Bachelor's and Master's degree programmes in Forestry also enable graduates to pursue advanced studies at the Master's or Doctoral level.

According to the Order Nº69/n of the Minister of Education, Science, Culture and Sport of Georgia, dated 10 April 2019, approving the classification of fields of study, the following qualifications may be awarded within the framework of educational programmes covered by this Subject Benchmark Statement:

- 1) Bachelor/Master of Forestry;
- 2) Bachelor/Master of Science (BSc/MSc) in Forestry.

# III. Learning Outcomes

The learning outcomes defined by the Subject Benchmark Statement for Forestry are designed to develop the knowledge, skills, autonomy, and responsibility that graduates must demonstrate upon completing the relevant level of study (Bachelor's or Master's). These outcomes represent a minimum standard that all higher education institutions are required to meet. Institutions may further define additional outcomes within their programmes, considering best international practices and recent advancements in the field. They are also entitled to formulate learning outcomes in three categories—knowledge and understanding; skills; and responsibility and autonomy—either separately or in an integrated manner.



## 3.2 Learning Outcomes of the Master's Degree Programme in Forestry

## A graduate of the Master's degree programme in Forestry:

- Reviews different forms of forest ownership, legal, political, and institutional arrangements, and the modern requirements of pan-European cooperation;
- Describes the principles, indicators and criteria of sustainable forest management in details;
- Reviews the main legislative acts and regulatory documents in the field;
- Identifies and analyses best international practices related to sustainable forest management and prepares relevant recommendations in relation to national needs;
- Independently conducts research using the latest methods and approaches;
- Plans and implements measures in line with the principles of sustainable forest management;
- Records and processes data using modern field research tools and Geographic Information
   Systems (GIS), creates databases, and prepares relevant documents;
- Analyzes processes occurring in forest ecosystems, assesses changes occurring as a result of natural and anthropogenic impacts, and forecasts related risks;
- Plans strategically, in forestry, both his/her own and others' studies and activities on the basis of self-evaluation and peer evaluation;
- Engages in study and professional activity applying both individual and teambased approaches.



# IV. Qualification to be Awarded

According to the Order Nº69/n of the Minister of Education, Science, Culture and Sport of Georgia, dated 10 April 2019, on the approval of the classification of fields of study, it is possible to award the qualifications indicated in this section within the field of Forestry.

The formulation of the qualification is determined based on the content, structure and goals of the educational programme. If a Bachelor's or Master's programme in Forestry is primarily focused on theoretical studies and the development of practical skills, the qualification may be awarded in the following form:

1)Bachelor of Forestry;

Master of Forestry;

If the primary objective of Bachelor's and Master's programmes at levels VI and VII in the field of Forestry is the development of research skills, the qualification may be awarded in the following form:

2)Bachelor of Science (BSc) in Forestry; Master of Science (MSc) in Forestry;

# V. Teaching, Learning, and Assessment

The teaching, learning, and assessment methods presented in this Subject Benchmark Statement are of a recommendatory nature and are based on the principles of student-centered learning.

The methods of teaching, learning, and assessment should contribute to achieving the programme learning outcomes, mastering the study material, developing transferable skills, and preparing specialists in Forestry equipped with modern knowledge as well as theoretical

and practical skills. Assessment approaches and criteria should allow for the demonstration of the student's learning outcomes and general compliance with the subject benchmark statement, should be multi-component and ensure the assessment of the goals and learning outcomes of each course.

The aim of Forestry education is to develop specialists equipped with modern theoretical and practical knowledge as well as the ability to apply contemporary technologies. To achieve the objectives and learning outcomes of Bachelor's/Master's programmes in Forestry, and to ensure the evaluation of learning outcomes, it is essential to apply teaching, learning, and assessment methods that are relevant to the programme's goals and outcomes. Student assessment should be multi-component and ensure the evaluation of each course's objectives and learning outcomes. When choosing teaching-learning methods, the cycle of education should also be taken into account. At the Master's level, greater emphasis should be placed on research-based approaches, which will help students acquire the ability to plan, conduct, and analyze research independently.

#### 5.1. Teaching and Learning Methods

The following methods are the most common forms of teaching, learning, and assessment, though only some of them may be incorporated into a specific programme, alongside other methods. Higher education institutions should continuously review and update their teaching, learning, and assessment methods by introducing and sharing best practices of teaching-assessment and recent achievements in Forestry-related competences.

When transitioning from Bachelor's to Master's level, research-based teaching approaches should be employed, enabling students to develop the ability to plan and conduct research independently.

Depending on the content and objectives of the programme, higher education institutions may select from the methods listed below or apply other appropriate methods. The use of methods not explicitly mentioned under the "teaching-learning methods" section is also permitted, provided they are specified in the syllabus of the respective course. Depending on the nature of the programme, learning activities may take place both in classrooms and in practical field settings.

Institutions implementing higher education programmes may use the following methods, among others:

- Lecture;
- Seminar;
- Laboratory works;
- Practical training;
- Independent Work;
- Teaching practice.

Taking into account the specificities of Forestry, student-centered teaching and learning methods may include lectures and seminars, structured presentations, experiments, group work, practical training, case studies, project-based learning, consultations, discussions/debates, e-learning, and others.

#### **5.2** Assessment Methods

The assessment forms (interim and final) defined in the syllabus of each course of an educational programme may include components that evaluate a student's knowledge, skills, and competences.

Within the framework of academic freedom, the instructor of each course independently selects the evaluation methods, defines and clearly formulates the assessment criteria and



their corresponding scores, all of which must be specified in the course syllabus. At the same time, the lecturer must have sound arguments for the selected assessment methods and criteria. Assessment supports the enhancement of student motivation and the development of learning skills.

## VI.Additional Information

This Subject Benchmark Statement of Higher Education in Forestry enters into force upon approval.

A higher education institution is obliged, within one year from the approval of this document, to bring the programme(s) in the field of study "Forestry", as defined by the "Classifier of Fields of Study" approved by Order No 69/n of 10 April 2019 of the Minister of Education, Science, Culture and Sport of Georgia "On the Approval of the National Qualifications Framework and the Classifier of Fields of Study", into compliance with this subject benchmark statement, except in cases where the programme(s) must submit an accreditation application to the Center within a period of less than one year. If an accreditation application is to be submitted within less than one year of the entry into force of this Statement, the programme(s) included in the application must comply with the approved Subject Benchmark Statement of Higher Education in Forestry.

The institution is obliged, when submitting an accreditation application for a new educational programme(s) to the LEPL – National Center for Educational Quality Enhancement, to ensure that the programme(s) comply(ies) with the requirements of the Subject Benchmark Statement.

#### 6.2. Academic Staff

Bachelor's/Master's programmes in Forestry may be implemented by higher education institutions with the involvement of an adequate number of qualified academic staff and invited specialists, whose experience and competences ensure the stable and effective functioning and development of the programmes, as well as the achievement of the defined learning outcomes.

#### 6.3. Material Resources and Infrastructure

Higher education institutions must possess or ensure access to adequately equipped teaching spaces and laboratories, with the necessary material resources and technical facilities, either directly or through agreements/memoranda with relevant organisations. This creates the necessary conditions for academic and invited staff, as well as students, to achieve the programme objectives and learning outcomes.

#### 6.4. Employment Opportunities

Graduates holding a Bachelor's or Master's degree in Forestry may find employment in fields related to forestry, land use, natural resource management, environmental protection, and biodiversity conservation, including:

- 1. Public Sector state structures involved in forest management, the Ministry of Environmental Protection and Agriculture of Georgia, the National Forestry Agency, the Agency of Protected Areas, the Adjara Forestry Agency, Tbilisi City Hall, local self-government bodies, and others;
- 2. Private Sector companies holding timber production licenses; companies providing forestry and agro-forestry services (forest inventory, forest use, forest management,

afforestation/restoration); timber processing enterprises, and others;

- 3. Non-Governmental Sector local and international environmental organisations, and others;
- 4. Scientific Sector research institutes and laboratories, educational institutions.

# VII. Members of the Subject Benchmark Statement Development Group

# 7.1. Members of the Document Development Group

# Members of the Higher Education Sectoral Council of Forestry:

Nº	Name, surname	Organization/institution	Position
1	Natia	LEPL National Forest Agency	Deputy Head of the National
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			Chair of the Council
2	Nato Kobakhidze	N(N)LE Agricultural University of	Doctor of Biology,
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3	Teo Urushadze	N(N)LE Agricultural University of	Doctor of Biology,
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4	Zviad Tiginashvili	Georgian Technical University (LEPL)	Doctor of Agriculture Associate Professor, Head of the Bachelor's Programme in Forestry
5	Merab Machavariani	Georgian Technical University (LEPL)	Doctor of Forestry Invited Lecturer at Georgian Technical University (LEPL)
6	Zaza Nonashvili	Ministry of Environmental Protection and Agriculture of Georgia (LEPL)	First Category Senior Specialist of the Forest Policy Division of the Biodiversity and Forestry Department of the Ministry of Environmental Protection and Agriculture of Georgia
7	Natela Bliadze	Environmental Information and Education Centre (LEPL)	Chief Specialist of the Environmental Information Service of the Environmental Information and Education Center (LEPL)
8	Nato Sultanishvili	Agency of Protected Areas (LEPL)	Doctor of Biology, Head of Planning and Development Service of Agency of Protected Areas (LEPL)
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10	Jumber Abuladze	Adjara Forestry Agency (LEPL)	Head of the Adjara Forestry Agency
11	Ruslan Davitadze	Adjara Forestry Agency (LEPL)	Doctor of Agricultural Sciences, Deputy Head of the Adjara Forestry Agency
12	Rezo Vasadze	Adjara Forestry Agency (LEPL)	Doctor of Agricultural Sciences, Head of the Forest Pest and Disease Control Service at Adjara Forestry Agency; Member of the National Coordinators Group of the Environmental Protection and Forestry Scientific Division of the Georgian Academy of Agricultural Sciences; Coordinator of the Adjara Scientific Division
13	Lado Kakhoidze	N(N)LE Tusheti Protected Landscape Administration	Director of the Tusheti Protected Landscape Administration