

# MASTER OF SCIENCE IN AGRO-FORESTRY (MScAF)

# REVISED COURSE STRUCTURE and BRIEFS January 2023

## **Summary**

The Master of Science in Agroforestry (MScAF) is a four-semester program with 63 credits including 14 conceptual and 3 experiential courses of 3 credits each, and thesis of 12 credits. Launched in 2021, the courses have been revised with the inputs of teaching faculties and experts. The revised courses have been endorsed by the Academic Council on 25 January 2023 upon the approval with inputs by the Subject Committee meeting on 05 January 2023.

**Summary Table: Course Structure by Semesters** 

Semester	Course	
	Course	Taxonomy Hierarchy
First	AGFR 510 Basics of Agroforestry	2. Understanding
	AGFR 511 Monastic Experiences	4. Problem solving
	AGFR 512 Agroforestry for Sustainable Development	2. Understanding
	AGFR 513 Buddhism and Natural Resource Management	2. Understanding
	AGFR 514 Home/School Gardening or	3. Application
	AGFR 516 Silviculture	
	AGFR 515 Research Methodology in Agroforestry	4. Problem solving
Second	AGFR 551 Agroforestry Farm Experience	4. Problem solving
	AGFR 552 Geographical Information System	4. Problem solving
	AGFR 553 Agroforestry Plan and Policy	5. Analysis
	AGFR 554 Agroforestry Extension Education or	3. Application
	AGFR 556 Forest Management	
	AGFR 555 Urban Forestry	3. Application
Third	AGFR 611 Outreach Program	4. Problem solving
	AGFR 612 Integrated Pest Management or	5. Analysis
	AGFR 616 Soil Conservation and Watershed Management	
	AGFR 613 Herbal Farming	3. Application
	AGFR 614 Agroforestry Products & Markets	5. Analysis
	AGFR 615 Agroforestry Cooperatives or	6. Innovation
	AGFR 617 Forest Biometrics	
Fourth	AGFR 651 World Trade in Agroforestry	5. Analysis
	AGFR 652 Thesis	6. Innovation

Note: AGFR 652 carries 12 credits, and remaining courses carry 3 credits each. AGFR 511, AGFR 551 and AGFR 611 are the experiential courses, and the remaining ones are conceptual.

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# MASTER OF SCIENCE IN AGRO-FORESTRY (MScAF)

# REVISED COURSE STRUCTURE and BRIEFS January 2023

# INTRODUCTION

## **Background**

The School of Development Studies & Applied Sciences (SDSAS) was established in accordance to the Article 9D of the Lumbini Buddhist University (LBU) Act 2006 and by the decision of the LBU's XI Senate Meeting held on August 14, 2019 in Lumbini. It aims to promoting teaching and learning of development studies & applied sciences by integrating conceptual and practical applications of Buddhist philosophy, knowledge and education for inspiring *Tapovana*, ethical society, sustainable development and nature conservation. The Senate also decided to offer three master level programs under the School, namely a) Agroforestry, b) Development Studies, and c) Environmental Studies.

SDSAS has also developed Master in Buddhist Architecture and Planning, and supervises three other programs, namely Master of Science in Construction Engineering and Management, and Master of Science in Disaster Risk Engineering and Management, and Bachelor in Sowa Rigpa Medicine and Surgery.

In 2023, the first batch of learners pursuing for Master of Science in Agroforestry (MScAF) has entered into the 4th semester. Most of the sessions have been conducted online given the conditions of COVID-19 locked down in 2021 and 2022. Both learners and faculties have participated in the field studies, activities and events organized by LBU and SDSAS on various occasions. Their participation was linked with their assignments and research works as required for the ongoing course works.

With the feedback received from the learners, faculties and other experts, MScAF courses have been reviewed. During the review process, references have also been made to the relevancy of the subjects for the Nepal Forest Services as outlined by the Ministry of Forests and Environment, and the syllabus of written examinations prepared by the Public Service Commission of Nepal (LSA, 2022 and 2022a).

The subject committee chair and members and the invited experts approved the four additional courses and their contents with relevant inputs in an online meeting on 05 January 2023. The academic council endorsed the additional courses in a meeting on 25 January 2023. Learners may opt for the alternative courses as mentioned in the course structure.

As approved by the subject committee and endorsed by the academic council, the title of the program has also been revised to be *Master of Science in Agroforestry* (MScAF in short) based on the specific qualification type, designator and qualifier as defined in the higher education framework prepared by the University Grant Commission (See HEQFDT, 2016:7 and 12).

#### **Approval**

The Master of Science in Agroforestry (MScAF) is a four-semester program to be completed in two years with 63 credits. Launched in 2021, the revised courses have been approved by the Academic Council meeting on 25 January 2023 at LBU central office, Parsa, Lumbini upon the approval by the Subject Committee meeting on 05 January 2023, 6:00 pm

- 7:20 pm on Zoom (ID: 830 8946 5709; Passcode: sdsas, and link <a href="https://us02web.zoom.us/j/83089465709?pwd=OXNBVVQrR2hkdGpIRlpMeTQxSW92dz0">https://us02web.zoom.us/j/83089465709?pwd=OXNBVVQrR2hkdGpIRlpMeTQxSW92dz0</a> 9).

# **Program Goal**

As per the Senate decision, the program goal of the Master of Science in Agroforestry (MScAF) is to focus on the development of economically viable *tapovana* (meditation grove) in line with Buddhist philosophy and the universal goals of sustainable development.

# **Program Objective**

The main objective of the MScAF program is to prepare the students equipped with knowledge, skill and attitude for independently conceptualizing, planning, implementing and evaluating agroforestry programs/projects through integration of the Buddhist philosophy and the contemporary applied sciences along with innovative ideas for bringing positive changes in the livelihood of the people.

## **Program Outcome**

The students who would successfully complete the MScAF program would be competitively instrumental in the agroforestry related organizations at the government, nongovernment or community from the grass-root through the policy-making levels.

#### **COURSE DESIGN**

#### **Structure and Credits**

The MScAF program offers 63 credits in accordance to the qualification framework for master level programs as outlined by the University Grants Commission (UGC) (HEQFDT, 2016:8). The thesis work carries 12 credits, and will be initiated in the third semester. The remaining courses carry 3 credits each. In the case of practical courses namely Monastic Experience, Farm Experience and Outreach Program, the 21 days of field experience qualifies for 3 credits on the basis of the UGC's definitions of credit hours (HEQFDT, 2016:9) (Annex 1 and Table 1).

**Table 1. Course Structure by Semesters** 

Semester	Course	Taxonomy Hierarchy	
First	AGFR 510 Basics of Agroforestry	2. Understanding	
	AGFR 511 Monastic Experiences	4. Problem solving	
	AGFR 512 Agroforestry for Sustainable Development	2. Understanding	
	AGFR 513 Buddhism and Natural Resource Management	2. Understanding	
	AGFR 514 Home/School Gardening or	3. Application	
	AGFR 516 Silviculture		
	AGFR 515 Research Methodology in Agroforestry	4. Problem solving	
Second	AGFR 551 Agroforestry Farm Experience	4. Problem solving	
	AGFR 552 Geographical Information System	4. Problem solving	
	AGFR 553 Agroforestry Plan and Policy	5. Analysis	
	AGFR 554 Agroforestry Extension Education or AGFR	3. Application	
	556 Forest Management		
	AGFR 555 Urban Forestry	3. Application	

**Table 1. Course Structure by Semesters** 

Semester	Course	Taxonomy Hierarchy	
Third	AGFR 611 Outreach Program	4. Problem solving	
	AGFR 612 Integrated Pest Management or	5. Analysis	
	AGFR 616 Soil Conservation and Watershed Management		
	AGFR 613 Herbal Farming	3. Application	
	AGFR 614 Agroforestry Products & Markets	5. Analysis	
	AGFR 615 Agroforestry Cooperatives or	6. Innovation	
	AGFR 617 Forest Biometrics		
Fourth	AGFR 651 World Trade in Agroforestry	5. Analysis	
	AGFR 652 Thesis	6. Innovation	

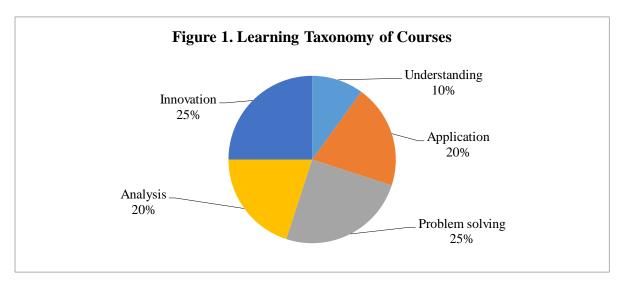
Note: AGFR 652 carries 12 credits, and remaining courses carry 3 credits each. AGFR 511, AGFR 551 and AGFR 611 are the experiential courses, and the remaining ones are conceptual.

#### **Course Code**

The course coding system follows alpha-numerical system in which AGFR an abbreviated version of Agro-Forestry is prefixed with the three digits. The three digits are arranged in an order of the semesters, for example 511 through 519 for the first semester, and the 521s for the second semester and so forth.

#### **Learning Domains and Taxonomy**

The course objectives will be formulated on the basis of the learning domains and taxonomy as well as classifications of the Buddhist pedagogy (**Figure 1**). There are three practical courses that expose the students to the real life situations while studying the program.



# **Pedagogy**

As outlined in the LBU's Sub-rules of Operating Semester System, the pedagogy will follow interactive and participatory along with students' presentations, case studies etc. The course instructors may also develop their tailor-made approaches as suitable for their respective courses or topics (LBU, 2018).

In accordance to the UGC framework of higher education, the course of 3 credits each will be conducted in 15 sessions of 3 hours each totaling 45 lecture hours. Students are expected to study 90 hours for their independent learning (HEQFDT, 2016).

#### **Evaluation**

The courses have been designed to be field oriented, and evaluation of learners' performance and achievements will be based on 100 marks segregated into 50 each in internal evaluation and end-semester examinations (**Tables 2** and **3**).

**Table 2. Internal Evaluation by Course Instructors (50%)** 

SN	Tasks	Number	Marks
1	Class Participation (@ One Session in 15 Weeks)	30	5
2	Assignments (individual and job related)	2	10
3	Group work (preferably field based)	1	10
4	Presentation (group/individual)	1	10
5	Term paper (research based, field or table)	1	15
	Total	5	50

Note: Course instructors may design types of assignments, group work and presentations. However, outlines or checklists should be shared with students in advance.

Table 3. End-semester examinations by Office of the Controller of Examinations (50%)

SN	Tasks	Number	Marks
1	Objective Questions (multiple choice questions of one best option	10	10
	and three distractors) @ 1 mark		
2	Subjective Questions		
2.1	Long (innovation, analysis, problem solving) @ 10 marks	2	20
2.2	Short (understanding, application) @ 5 marks	4	20
	Total	16	50

Further elaborations of internal evaluation and end-semester examinations are given in the LBU's sub-rules for the operation of semester system (Annex 2) (LBU, 2018).

## **Inter-Program Courses**

In addition to the courses offered in the MScAF program, a student may opt for additional courses that are offered in LBU's other master programs. Upon the approval of a supervising professor, a student may extend the timeframe for completing those course(s) by up to two additional semesters.

#### **COURSE BRIEFS**

The following briefs have been prepared to indicate the objective, scope and spirit of the given courses. As practiced at LBU-SDSAS, teaching faculties prepare detailed syllabus with unit breakdowns, references and lecture-hours based on the latest information available. They will also prepare their session plans for 16 weeks for delivery by indicating dates of sessions, assignments and evaluation approaches etc.

#### **AGFR 510 Basics of Agroforestry**

This course is offered to the students without any background in agriculture and forestry at the undergraduate level. It covers concepts of both agriculture and forestry. The agriculture

units include agronomy, horticulture, floriculture, soil science etc. Similarly, the forestry units include geography, natural vegetation, forests types, tree species etc. It enhances the level of understanding the Buddhist philosophy of as applied to agricultural and forestry practices covering the concepts of natural resources management, productions and harvesting.

# **AGFR 511 Monastic Experiences**

This course is a 3-week long practical experience of life in a monastery or in a Buddhist community. It enlightens the students on the Buddhist philosophy and its applications in agroforestry programs. It links with other courses, so that the students will be able to connect the concepts of agroforestry. It empowers the students with spiritual knowledge, life-skills and positive attitude derived from the Buddhist philosophy for professional advancement on sustainable development with the contextualized concepts of *Sheela sampanna sangha* and shared prosperity with *maitri* (amity), *karuna* (compassion) and *mudita* (joy) for benefiting the community. It enables the learners to gain skills of Buddhist approaches of solving problems.

# **AGFR 512 Agroforestry for Sustainable Development**

This course introduces the basic concepts of sustainable development, such as economics, environment and society, and emphasizes on the roles of agriculture and forestry. It reviews on the traditional systems of agriculture and forestry in various ecological regions. It covers the ecology of agroforestry and selection of tree & food crops. It covers the socio-economic aspects of agroforestry such as employment, indigenous knowledge, local resources and traditional practices, livelihood, and multi-purpose tree species. It enhances the learners' level of understanding significance agroforestry the sustainable development goals. It explains Buddhist perspectives on sustainable development goals with reference to agroforestry.

#### AGFR 513 Buddhism and Natural Resource Management

This course introduces the principles of ecology (ecosystems, biodiversity and livelihood), and ecosystem services (Provisioning, Regulating, Supporting and Cultural). It briefly covers the legal aspects and principles of managing natural resources. It briefly covers the agroecological regions, forests vegetation types and production cycles of natural resources. It elaborates on how climatic and edaphic factors influence the production of natural resources. It identifies the key stakeholders and their roles in managing natural resources with emphasis on land, water and forests. It enhances the learners' level of understanding the Buddhist perspectives of flora, fauna, forests, water bodies, soils, landscape etc.

#### **AGFR 514 Home/School Gardening**

This course introduces the basics principles of home/school gardening with highlights on plants propagation; pest, disease and weed control; soil nutrients and composting; and irrigation. It provides practical knowledge and skills of bee-keeping, garden designing & landscaping, and growing flowers, fruits, herbs and vegetables for applications in the home/school gardens. It discusses on creative ideas and planning of home gardening as appropriate to the space available such as bag, balcony, basket, container, green-house, hydroponic, plastic-cover, roof-top, terrace, wall, window, yard etc. It covers on the composting making out of kitchen and other organic wastes. It supplements to the course *AGFR 533 Herbal Farming*.

## AGFR 515 Research Methodology in Agroforestry

This course covers the components research methods applicable to agroforestry. It analyzes strengths and limitations of various methods, and assesses ethics and practices of research works. It covers the step-wise approaches of designing and implementing quantitative and qualitative techniques including case study and precedent studies, sampling, primary & secondary data collection, questionnaire surveys, consultations, interviews, focus groups, participant observation, content analysis, cross-section and time series analysis, descriptive statistics and so forth. It provides the students with knowledge and skill required for conducting original research works independently with the capability of solving problems associated with agroforestry.

#### **AGFR 516 Silviculture**

This course introduces the basics principles of silviculture with highlights on forest ecology, invasive species, human impacts, climate change, forest carbon etc. It provides practical knowledge and skills of regeneration and coppice systems and their applications in various physiographical regions. It discusses on creative ideas and planning of silvicultural systems in forest management such as forest types & species composition, multipurpose plant species, Multiple Use Forest Management, growth and yield modeling, thinning, pruning, shrub land improvement, forest fire, forest health, integrated insect/pest management strategies, soil & water conservation, wildlife habitats, recreation etc. It highlights on the Plantation Silviculture covering topics like multi and monoculture, Choice of Species, Seeds Production, collection, storage and treatment, Nursery and plantation techniques. It supplements to the course *AGFR 556 Forest Management*.

## **AGFR 551 Agroforestry Farm Experience**

This course is a 3-week long practical experience in an agroforestry farm or project. Students may choose anyone agroforestry farm managed by communities, private companies, or government. It gives them an opportunity of gaining the first hand exposure on the activities and trends of the agroforestry programs. It gives an opportunity of handling farm tools and equipment. It gives students analytical views of the strengths and gaps of such organizations in reference to the agroforestry farms. It enhances student's capability and confidence to work at the agroforestry farms for solving problems pertinent to agroforestry and promoting ideas for solutions.

# **AGFR 552 Geographical Information System**

This course includes introduction, theories, applications and challenges of implementing the Geographical Information System (GIS). It covers the basics of maps, projections and coordinates, data models, data sources & entry (digitation, geographical positioning system-GPS, remote sensing), and data analysis. It includes hands-on practical in the lab and the fields to solve the environmental problems using GIS tools. Specifically, it provides learners with skills of solving problems related to agroforestry using spatial analysis that include spatial and attribute queries, buffering, overlays, and geocoding. It uses the problem solving approach of exploration, computation, interpretation, decision and dissemination.

Reference: https://uni.edu/~strausst/gis\_syllabus.htm); https://cbs.arizona.edu/buddhist-geographical-information-system-bgis

## **AGFR 553 Agroforestry Plan and Policy**

This course covers the fundamental steps of planning for socio-economic development at the national and community levels. It includes the contextual analysis, theories, and practices adopted at the national and local levels. It applies appropriate skills and tools for designing,

implementing, monitoring, and evaluating development plans. It highlights on the new trends and techniques in agroforestry planning and models. It analyzes the national agricultural and forestry policies and plans from the perspectives of agroforestry. It reviews on the case studies of agroforestry plans. It integrates the Buddhist approaches to socio-economic aspects of agroforestry programs.

## References:

- <a href="https://www.uneca.org/idep/pages/fundamentals-development-planning">https://www.uneca.org/idep/pages/fundamentals-development-planning</a>
- <a href="http://www.prism.gatech.edu/~ps25/Econdev1/econdev1.htm">http://www.prism.gatech.edu/~ps25/Econdev1/econdev1.htm</a>
- <a href="http://lrcnepal.org.np/article-MA\_2nd\_year\_syllabus">http://lrcnepal.org.np/article-MA\_2nd\_year\_syllabus</a>

# **AGFR 554 Agroforestry Extension Education**

This course introduces the historical evolution of agricultural and forestry extension education by linking with the teachings of Buddha. It highlights on mindful communications for community mobilization by applying the traditional and/or contemporary techniques. It covers theories of motivations as applicable to extension education programs. It identifies and mobilizes progressive farmers for advancing agroforestry practices by forming users groups. It analyzes on the innovative ideas of agroforestry programs, and discusses on dissemination of such ideas. It covers program planning of extension education at various levels including schools and communities. It links agroforestry programs with the cooperatives and financial institutions for investments.

# **AGFR 555 Urban Forestry**

This course introduces the urban forestry and its roles pertinent to ecology, environment, health, biodiversity, aesthetic, culture, social life and economics etc. It reviews the historical development of Buddhist gardens, and its growing appreciation in the modern cities. It covers the avenue plantations and urban groves, and their management. It covers the selection of tree species, and management of trees such as health, propagation and pruning etc. It discusses on the principles of urban forests on the basis of local environment, infrastructure development, people's culture, partnership, economic investment and financial sustainability. It covers urban forest policies and programs adopted by municipalities.

## **AGFR 556 Forest Management**

This course introduces the historical evolution of forest management and its link with Buddhist philosophy as applied in the various ecological zones. It highlights on legal aspects such as Ownership (Community, Leasehold, Collaborative, and Government), certification and Legal Procedures of Payment for Ecosystem Services. It discusses on the Stakeholders and types such as International Organizations, Non-governmental Organizations (NGOs), Community Based Organizations (CBOs) and Private Sector, and their respective roles. It analyzes conceptual frameworks and innovative ideas of Sustainable Forest Management Plan such as Elements of sustainable management, Forest Management Cycle and time-frame, Legislation for management planning, Yield prediction, regulation and modelling, Harvest planning, Minimization of environmental impacts etc. It links the course of *AGFR 516 Silviculture*.

# **AGFR 611 Outreach Program**

This course is at least 3-week long social service in a community for enhancing the livelihood of the local people. In this course, students are encouraged to form a multi-disciplinary team; however, each member student will have a specific responsibility in the group. They are encouraged to identify the root causes of problems pertinent to agroforestry and their practical remedies through innovative ideas for enhancing livelihood of the people. They

would join an organization (government or nongovernment or community-based) or a monastery to carry out the community services. Their evaluation will be primarily based on the environmental indicators of agroforestry programs.

## **AGFR 612 Integrated Pest Management**

This course introduces the principles of integrated pest management (IPM) and its implications in agroforestry such as economic, ecological and sociological. It elaborates on the pest management tactics such as biological control, chemical control, cultural control and regulatory control. It deals with the weed management and organic farming with highlights on traditional practices of pest & weed control. It covers pest monitoring. It analyzes IPM policies and protocols adopted in the agroforestry practices. It supplements to the course *AGFR 533 Herbal Farming*.

#### **AGFR 613 Herbal Farming**

This course introduces basic principles of herbal farming with emphasis on the medicinal and aromatic (MAP) plants used in SowaRigpa medicine and trade. It covers ethno-botany and ecology of MAPs including edaphic and climatic factors. It elaborates on the nursery management, propagation of plants, pest control, products harvesting, storage and processing. It applies the theory and practice of growing high value MAPs in the farms and home gardens. It supplements to the course AGFR 514 Home/School Gardening, AGFR 532 Integrated Pest Management, and AGFR 534 Agroforestry Products & Markets.

# **AGFR 614 Agroforestry Products & Markets**

This course introduces on agroforestry products such as tangible products (edibles, herbal, wood, floral, honey etc), and intangible products (agro-ecotourism, meditation, educational visits). It analyzes on the marketing strategies and planning processes covering the topics of research—"Black Box" agroforestry market, sources of information (primary and secondary), SWOT Analysis, Porter's Five Forces, Pricing and Delivery. It elaborates on value addition (relevancy to Buddhism, organics, community made etc), processing & packaging, roles of cooperatives in marketing, and traditional marketing systems. It supplements to the course AGFR 533 Herbal Farming.

## **AGFR 615 Agroforestry Cooperatives**

This course introduces theories, practices and components of cooperatives. It reviews on the traditional systems of cooperative management especially from the perspectives of Buddhism. It encourages learners to create innovative ideas for entrepreneurship development (meaning, business planning, marketing, start-ups, managing Small and Medium Enterprises). It elaborates on the financial mechanism and legal base of cooperatives. It analyzes on the cooperative movements within country and worldwide. It discusses on the challenges and opportunities of agroforestry cooperatives using the case studies.

# AGFR 616 Soil Conservation and Watershed Management

This course introduces the science of soil erosion mechanics and Universal soil loss equation. It elaborates on Land use and Land capability classification system and analyzes on the Land degradation and its consequences on productivity and infrastructure, as well as Soil and Water Conservation Measures (Bio-engineering, Terracing, Conservation ponds, Sloping agricultural land technology - SALT etc). It analyzes policies of watershed management policy and development infrastructure especially irrigation, hydropower and drinking water supply scheme, and their implications in Upstream-downstream linkage and Payment for

Ecosystem Services. It critically deals with the case studies such as Chure conservation (Mahottari), Phewatal watershed (Kaski), Kulekhani Watershed (Makawanpur), Khorke-Itram-Jhupra Watershed (Surkhet) and others. It supplements to the courses *AGFR 513 Buddhism and Natural Resource Management* and *AGFR 556 Forest Management*.

## **AGFR 617 Forest Biometrics**

This course introduces theories of forest biometrics in general covering the main topics such as land measurement, forest mensuration (tree measurements, volume calculation, growth & yield), crown classification etc. It links with the courses AGFR 515 Research Methodology in Agroforestry and AGFR 552 Geographical Information System, and covers statistical methods applied in forestry such as Forest Inventory, Modeling Individual Tree Characteristics (Tree Height Models, Bole Taper Models, Bole Volume and Biomass Models, Models for Aboveground Biomass, and Modeling Crowns and Roots), Quantitative Characteristics of Forest Stands (Stand Density, Site Quality, and Growth & Yield Models), Statistically Designed Experiments in Forestry (Greenhouse Experiments, In Situ Experiments, and Spacing Trials), linear models, design and analysis of forestry trials (Power analysis, Power Calculation, and Application of Power Analysis), and Statistical Analysis of Forest Vegetation Management Data, Statistical Analysis Software Analyzing ANOVA designs (Design of an Experiment, Analysis of Variance, Multiple Comparison, Calculating ANOVA with SAS, Experimental Design), Analysis of repeated measures and time series, Logistic Regression Models (Statistical models, Testing and fitting Procedures, Logistic Regression) etc. It focuses on problem solving approach of exploration, computation, interpretation, decision and dissemination.

# **AGFR 651 World Trade in Agroforestry**

This course covers the key products of agroforestry in global and regional trade. It elaborates on the Value Chain and Comparative Advantages, and reviews on the Fair Trade as applicable to agroforestry products. It covers the policies and programs of world organizations like World Trade Organization, Convention on Trade in Endangered Species of Wild Fauna and Flora, and others. It analyzes global opportunities associated with agroforestry such as Carbon trade, Reducing Emission from Deforestation and Forest Degradation (REDD), Payment for Ecosystem Services (PES) etc.

#### **AGFR 652 Thesis**

This is a 12-credit course of a student's independent research to be conducted under the supervision of an assigned supervisor. Preferably in the third semester or earlier, a student prepares a concept paper outlining the salient features of the proposed research for approval from his/her supervisor. Upon completion of the research works, he/she prepares a document in a given format by including the key chapters such as introduction, literature review, methodology, results, discussion, and conclusion. He/she presents the final draft document in a seminar where the external examiner will also be present for questions based on the research document. By incorporating the comments and suggestions, he/she finalizes the document in a given format and submits it to the University. A student is also encouraged to publish an article in a journal. It is expected that student's thesis would provide an innovative ideas to be adopted by the local bodies and/or communities for agroforestry.

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#### Annex

Annex 1. Definitions of Credit Hour

Types of Study	Engaged Learning	Independent Learning	Total
(One credit hour equivalent)	Hours (minimum)	Hours of Students	Hours
		(minimum)	
1. Lecture hour	15	30	45
2. Hours of lab studies	45	30	75
3. Hours of field studies	45	30	75
4. Hours of clinical studies	45	30	75
5. Hours of industrial training	90	30	120
6. Hours of self-study or online	-	45	45
study or distance study			

Note: The three practical courses such as AGFR 511 Monastic Experience, AGFR 551 Farm Experience, and AGFR 611 Outreach Program are considered equivalent to 'field studies' and/or 'clinical studies' that require minimum 45 hours of engaged learning. Considering that a student's daily engagement of 7.5 hours of field/clinical studies and 5 hours of independent learning totals 45 hours in three weeks.

#### Source:

HEQFDT, 2016. HIGHER EDUCATION QUALIFICATION FRAMEWORK NEPAL. Bhaktapur: Higher Education Qualification Framework Drafting Taskforce (HEQFDT), University Grant Commission, Nepal (p 9)

#### **Annex 2. Selected Sub-Rules**

Sub-Rules of Operating Semester System, 2075 (Applicable for the Master and Bachelor Level Programs under the Faculties of Humanities & Social Sciences, and Buddhist Studies)

## 3.4 Pedagogy

- a) The teaching methods will include interactive and participatory lectures along with presentations and case studies and project works as appropriate.
- b) The Faculty and Campus may develop pedagogical methods as appropriate for the courses.

## 4.1 Evaluation of Students' Performance

- a) Students' performance evaluation will be carried out continuously. The evaluation will be primarily based on internal assessments and end-semester examinations.
- b) In general, each course evaluation will be on the 40% internal assessment and 60% endsemester examinations. However, in the case of practical subjects, evaluation system will be decided by the subject committees.
- c) Students have to pass both internal assessment and end-semester examinations. The minimum scores required for passing internal assessment will be 50%, and those students who have not cleared the internal assessments may not qualify to sit in the end-semester examinations.
- d) The marks of internal assessment will be segregated into various components as decided by the subject committees, in which attendance will also be included. Upon the recommendations of the subject committees, the class assignments could be conducted as follows:

- a. Term Paper Writing,
- b. Class Presentation,
- c. Report Writing,
- d. Project Work,
- e. Home Assignment,
- f. Ten Days Meditation,
- g. Fasting Observance,
- h. Hymn Recitation,
- i. Ten Days Ordination,
- j. Book Review,
- k. Seminar Paper Writing,
- 1. Text Reading, and
- m. other educational activities as recommended by the subject committees
- e) The scores of students' internal assessment along with necessary forms must be sent to the respective offices within 10 days of the last day of the internal assessment.

#### 4.2 Semester Examinations

- a) The end-semester examinations will be held in accordance to the academic calendar twice a year upon completion of a semester.
- b) In general, the weight of the end-semester examinations will be 60 percent. Students have to score minimum 50% in each subject (course).
- c) The Office of the Controller of Examinations will conduct the end-semester examinations including all the works pertinent to the same.
- d) The results of the end-semester examinations will be published within two months of the completion of the examinations.
- e) All the works of checking the answer sheets of the end-semester examinations will be done by the Office of the Controller of Examinations.

#### Sources:

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