InnoLAND
LAUNCHING AN INNOVATION-BASED LANDSCAPE
ARCHITECTURE TRAINING FRAMEWORK IN EUROPE

Output 3: Model of an Exemplar Master Study Programme in Landscape Architecture (MLA)

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ACRONYMS

BLA	**Bachelor in Landscape Architecture**
CPD	**Continuous Professional Development**
CTF	**Common Training Framework**
CM	**Conversion Master**
EC	**European Commission**
ECTS	**Credits of the European Credit Transfer and Accumulation System**
ECLAS	**European Council of Landscape Architecture Schools**
ELC	**European Landscape Convention**
EM	**Education Module**
EQF	**European Qualification Framework**
ESD	**Education for Sustainable Development**
EU	**European Union**
EU-Land21	**Erasmus plus project on developing an exemplar BLA**
HEI	**Higher Education Institute**
ICOMOS	**International Council on Monuments and Sites**
IFLA	**International Federation for Landscape Architecture**
IFLA Europe	**The European Region of IFLA**
ILO	**International Labour Organisation**
ISCO	**International Standard Classification of Occupations**
MATE	**Hungarian University of Agriculture and Life Sciences**
MLA	**Master of Landscape Architecture**
LA	**Landscape Architect**
Las	**Landscape Architects**
LAR	**Landscape Architecture**
PALAR	**Participatory Action Learning and Action Research**
PBL	**Problem Based Learning**
RTD	**Research Through Design**
SDG	**Sustainable Development Goals**
SRDL	**Self Regulated Design Learning**
UN	**United Nations**
UNESCO	**United Nations Educational, Scientific and Cultural Organization**

Who should read this report?

This report is meant for teachers, researchers, students in the field of landscape architecture who want to develop, improve or be informed on master programmes in landscape architecture. It is especially relevant for curriculum developers, teachers who coordinate a studio or a module and students who advice in student boards on the content on the programme.

We want to share with you our work in the framework of the Erasmus plus project InnoLAND on the analysis, framework, building blocks and guidance for an exemplar master programme.

The report presents the starting points for a master level study as a follow up of a bachelor programme. It builds upon a previous output of the InnoLAND project where a proposal for a Common Training Framework for landscape architecture is developed.

Educational modules, either compulsory or elective, serve as building blocks of the programme. In section 2.1 the set of modules that can be applied are introduced and the full content of these modules can be viewed in Appendix 4. Each description of a module contains the competences, aim, learning objectives, activities, teaching modes, assessment modes, and references.

The competences of the CTF define the competences and learning aims of the exemplar master (§ 2.3). Transformative competences are needed at all levels of society to help guide communities to address the grand challenges of our time. The need for this type of competence building has recently been reconfirmed when the European Union published GreenComp, the European sustainability competence framework (§ 2.6).

The didactic approach (§ 2.4) is based on a constructivist learning concepts, with studios and project work as core elements, and pedagogic functions such as problem based learning and self-regulated design learning. In section 2.5. it presents a way to integrate landscape research into master programmes and a possibility to combine his with participatory action research.

Those who are interested in entry requirements, assessment of students can consult chapter 3, where you can find the standards, proposals for procedures and assessment modes.

InnoLAND explored various alternatives for master programmes in landscape architecture which you can find in chapter 5. Main principles are: (1) the integral studios form the core of the landscape architecture programme; (2) a set of compulsory modules on research, reflection on practice and theory with systems thinking provide a sound theoretical basis; (3) international experience is provided by workshops organised with partner universities from other countries; (4) seminars on current challenges of society are linked to and integrated in studios, while students have to choose options from these; (5) the master thesis in combination with a final project completes the programme. The importance of an internship depends much on whether in a country a post-graduate traineeship is offered.

The chapter on conversion masters (chapter 6) discusses the development of a programme for learners who did not complete a bachelor programme in landscape architecture. There you can find the pros and cons and a proposed structure for such a programme.

If you are an academic, teacher, staff member who is working on improving, developing master programmes in landscape architecture, you can find guidance in chapter 7 while informing yourself on our reflection on the alternatives of the structures of the programme in chapter 5 and making use of the building blocks of the educational modules. We hope you will benefit from our work on this exemplar master programme.

PART 1 INTRODUCTION

Introduction of the aims of the InnoLAND project, the aim of developing an exemplar master, and explains the activities that the partners undertook to design the modules, requirements and structure of the master.

1 Introduction

1.1 Context of the InnoLAND project

The InnoLAND Erasmus + Strategic Partnership aims to facilitate transparency and recognition of skills and qualifications of landscape architecture professionals in the EU by developing a Common Training Framework (CTF) for the profession of landscape architect along with relevant tools to support its implementation. The consortium consists of five Higher Educational Institutions (HEIs), covering geographical Europe from the North to the South - Finland, Lithuania, Hungary, Austria, Portugal – contributing with knowledge and experience on varying landscapes, study programmes, regulation of the profession, and European mobility experience.

Additionally, two landscape architects' organisations join the project, LE:NOTRE Institute and IFLA Europe, to ensure access to the most prominent landscape architecture knowledge and education, the target group of landscape architecture professionals, and access to the responsible bodies in the European Commission. The specific objectives of the InnoLAND project include:

− Implementing the requirements of the Professional Qualifications Directive to foster automatic recognition of the landscape architecture profession in Europe;
− Establishing pan-European quality standards for landscape architecture study programmes and harmonising landscape architecture education in Europe;
− Developing an exemplar master study programme framework in line with the European Common Training Framework.

The tasks for developing this Master Study Programme in Landscape Architecture in the project application and agreement are:

− designing the overall concept of the study programme in line with European Qualification Framework;
− creating the contents: Leaning Lines and Educational Modules;
− developing implementation guidelines for institutes of Higher Education.

1.2 Aim of this report

This report focuses on developing an exemplar model of Master of Landscape Architecture (MLA) study programme for the landscape architecture schools and programmes in Europe. The overarching goal is to facilitate the transparency of skills and qualifications of landscape architects. This exemplar model aims to have an impact on the educational and professional system, partner organisations, learners and staff. It fosters the innovation of landscape architecture programmes by serving as a reference model. The model and the set of modules can promote the debate on landscape architecture education and form a knowledge base for current and future staff. Learners can get a better insight in the current and possible content of education. By creating a model that acts as a benchmark, it supports the development of common standards in landscape architecture education, that help both educational and professional mobility and exchange. Figure 1 presents more in detail the impact for the different groups of stakeholders.
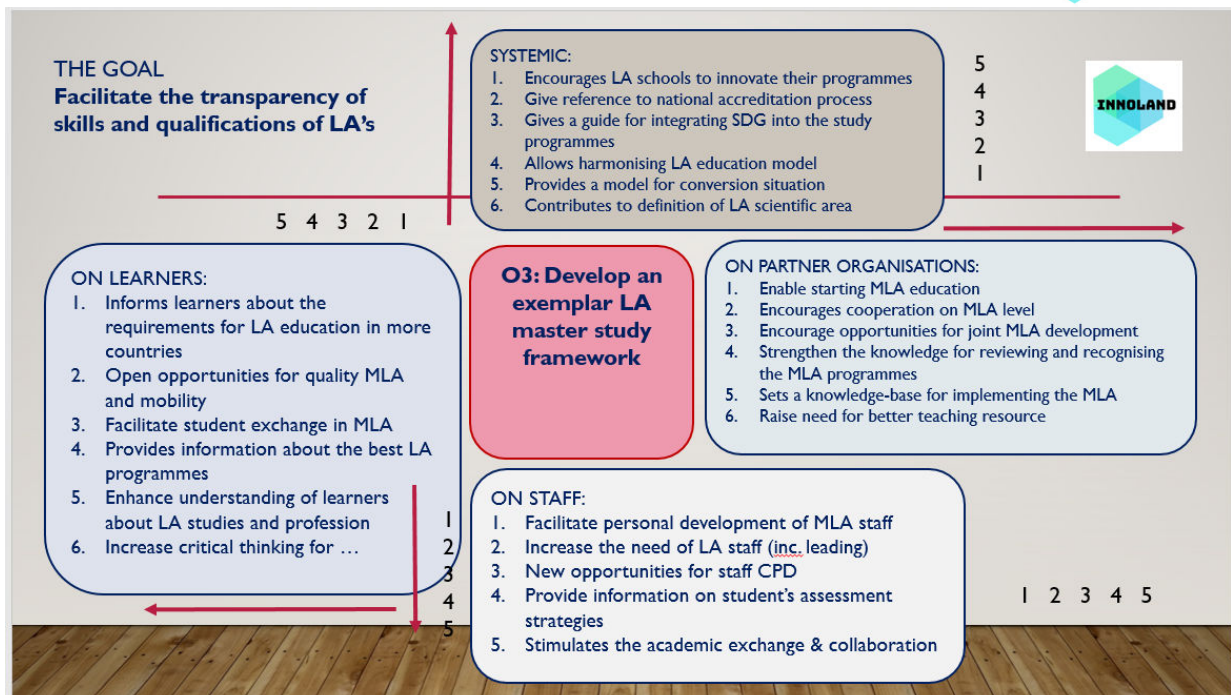
Figure 1. Planned impact of the development of an exemplar landscape architecture master on the educational and professional system, partner organisations, learners and staff.

The development of the model started with an analysis of existing MLA practices in the schools across the European continent. The legal requirements and guidance documents for MLA studies were explored prior to developing competences and modules of the master. As a result 17 Education Modules (EM) were produced that serve as building blocks for composing study programme models. A set of criteria for modularity and exemplarity were considered for drafting flexible and high quality master programmes that can meet the demands of varying contexts across the European continent.

1.3 Activities for developing the MLA programme

The following steps have been taken by the partners to elaborate valid recommendations for the model of an exemplar master programme in landscape architecture:

a. The set of criteria for exemplarity and modularity for the programmes were proposed, discussed and approved.
b. Analysing the existing MLA practices in European schools; including a staff and students survey on current models.
c. Analysing entry requirements to the existing MLA programmes in the partners universities and beyond.
d. Analysing legal requirements and existing guidance for MLA studies.
e. Developing, discussing and reviewing the Education Modules that are the building blocks for the programme.
f. Building the programme versions and considering learning lines.
g. Testing a selection of the modules in the International Summer School ISS in Nida, Lithuania, and analysing the impact of the ISS on staff and on learners.
h. Setting the guidelines for implementing the developed contents in EU schools.

In March 2023 the draft of the exemplar model was presented to representatives of IFLA-Europe and national landscape architecture associations in Europe. A second-tier quality review of this report and the educational modules was performed by the project quality assessment body.

Criteria for exemplarity and modularity

At the start of the development partners elaborated a set of criteria for modularity and exemplarity were considered for drafting flexible and high quality master programmes that can meet the demands of varying contexts across the European continent. Five features are a condition for exemplarity of MLA models: Quality criteria, Compatibility, Quality ladder, Flexibility, and Regionality (Table 1). On the other hand, every model definitely requires modularity which in its turn is expressed in five features (Table 2).

Table. 1. Criteria for exemplarity of the MLA study programme

No.	Criteria	Transcription	Comments
1	Quality criteria	Gives clear and transparent quality criteria for teaching, assessment and self-awareness. Defines a clear concept for the educational / pedagogic concept of MLAs	ECLA guidance document IFLA Europe documents InnoLAND reports of the outputs on advice, the common training framework and the exemplar master.
2	Compatibility	Meets the existing ECLAS and IFLA Europe regulation and requirements for LA studies	Yes - no
3	Quality ladder	Allows for the schools to progress along the quality ladder by commonly defined criteria and indicators	Accepted – good – very good - outstanding
4	Flexibility	Allows achieving same quality in several possible ways in the limits of acceptable and preferred quality requirements.	By defining core competences and elective studies, by allowing schools to have a specific focus on research, practice, adaptability of the programme to the educational philosophy of the school and its context as a life science, technical, agronomy university or academy of arts.
5	Regionality	Allows developing a programme that by meeting the global and EU goals reflects on regional specifics.	Baltic Sea Region, Mediterranean region, Vysegrad region, Nordic region, such as focus of professional practice in countries, specific required national standards.

In the following phases of developing MLA study programme models partners follow the above mentioned exemplarity and modularity features.

Table 2. Criteria for modularity of the Exemplar MLA study programme

No	Criteria	Indicators	Examples
1	Modular structure	Teaching blocks	3 – 6 – 9 – 12 – 24 ECTS + hrs
2	Interchangeability and interoperability	Definition of mandatory and elective modules by defining blocks that can be integrated in existing curricula.	
3	Balanced number of competences addressed	ECTS in hours	quantity and quality assessment, checked by a competence matrix (§ 5.5)
4	Open-ended	Accepting new blocks added or excluded	
5	Interrelation and interdependence	Transparency in possible and required interrelation of modules	

Analysing the existing MLA practices in European schools

Partners contacted several schools that are running landscape architecture programmes and collected information about the number of credits (bachelor + master), the balance of theoretical and practical courses, the number of elective courses available for students, and whether an internship is included in the master studies.

The analysis showed that almost all surveyed schools have 120 ECTS for MLA studies (except Krakow TU with 90 ECTS). This completes the amount of 300 ECTS for a full landscape architecture programme after a first cycle (bachelor) programme of 180 ECTS. In most programmes, practical (studio and related) teaching comprise more than 50% as required by the ECLAS Guidance (2010) and IFLA Europe recognition documents, with exception of programme in France. The number of ECTS for elective courses greatly vary from 0 (Latvia) and 3 (Switzerland) to 30 ECTS (in Finland). An internship period is only required in Latvia (39 ECTS), France (24 ECTS) and Spain (6 ECTS).

Table 3. Present structure of Master of LA programme at several EU universities.

Criteria -> University	MLA ECTS	Theory – practice lectures ECTS, %	Required – elective ECTS	Internship ECTS	Other
InnoLAND partner's universities:					
MATE HU	120 ECTS	35.8% -64.2%	114 ECTS – 6 ECTS	0	
Aalto FI	120 ECTS	32.5% - 67.5%	90 ECTS – 30 ECTS	0	Students can choose min 3 Studio courses
Evora PT	120 ECTS	32.5% - 67.5%	102 ECTS -18 ECTS	0	
Other universities:					
BOKU AT	122 ECTS	45% - 55%	102 ECTS -18 ECTS	0	
Jelgava LV	120 ECTS	33.3% - 66.7%	120 ECTS	39	All required
Lausanne CH	108 ECTS	33.3% - 66.7%	105 ECTS – 3 ECTS	0	
Bordeaux FR	106 ECTS	53.6% - 46.4%	106 ECTS	24	All required
Barcelona ES	122 ECTS	42.08% - 54.92%	107 ECTS -15 ECTS	6	
Krakow TU PL	90 ECTS	66.6% - 33.4%	78 ECTS -12 ECTS	0	

The analysis of the prerequisites for starting MLA studies shows that the consecutive way to MLA studies leads through a BLA degree. Many programmes also open their doors for the graduates of other programmes, most often - from architecture, horticulture, geography. The question remains if any additional courses are required in these cases. Master programmes also require an English language proof, and two from nine analysed programmes require students to submit their portfolio. The schools in Austria and Spain have a detailed list of academic requirements (Table 4).

Tab. 4. Prerequisites for joining MLA study programme

University	Degree obtained (ECTS)	Study fields accepted	Portfolio	Other requirements
Aalto	120 ECTS	Relevant Bachelor's degree **(BLA, landscape planning, geography, horticulture, architecture)**	Yes, interview	Programme in the language of the country?
MATE	120 ECTS	To have at least a bachelor's degree from a recognized university or similar institute in the field of landscape architecture or architecture-related subjects **(landscape planning, geography, horticulture, architecture, urban and regional planners)**	no	an English language test is required, ability at freehand drawing
U Evora	120 ECTS	Graduates in Landscape Architecture, with scientific or professional curriculum recognized by the Scientific-Council of the institution; For candidates with a degree in a related field, it could be applied crediting plans **(BLA, architecture, urban planning, agronomy, geography, biology)**	no	Each case will be considered by the Master Director listening to the candidate and proposing the Scientific Council the appropriate accreditation.
Latvia University of Life Sciences and Technologies	120 ECTS	Applicants with completed bachelor`s degree in landscape architecture are approved for admission to the programme.	no	Proof of English language proficiency
HES-SO, LAUSAGNE	108 ECTS	Bachelor's degree of landscape architecture	no	
Université Bordeaux Montaigne	106 ECTS	All courses included in the Agreement with your University of origin	no	
BARCELONA UPC TECH UNIVERSITY	122 ECTS	Holders of degrees in Architecture, Agricultural Engineering, Forest Engineering and other engineering degrees and diplomas related to spatial development can access this Master's degree.	no	Academic record focusing on the field of landscaping. Proof of professional experience within teams of designers. Academic certificates proving basic drawing skills will be positively evaluated.
BOKU Vienna	122 ECTS	Relevant Bachelor's programme or other equivalent degree programme at a recognized Austrian or foreign post-secondary institution	Portfolio of projects done at bachelor studies	Knowledge, skills and competences in landscape planning, in landscape architecture, in landscape construction and vegetation engineering, in nature preservation and landscape management, knowledge of botanic, fundamental knowledge of sociology, fundamental knowledge of soil science and geology, fundamental knowledge of hydrobiology
Krakow TU PL	90 ECTS	Bachelor of Landscape Architecture. Spatial planning and Horticulture graduates are also accepted after individual hearing.	Yes	

Appendix 1 '*Analysis of existing master studies*' provides an overview of the combined bachelor and master education in a selection of countries. The analysis reveals that 120 ECTS duration of the MLA programme prevail, while a small

percentage with more ECTS (for instance BOKU, AT) or less (Lausanne CH and Bordeaux FR). A full overview of the number of years and ECTS of landscape programmes can be found in Appendix IV and V of the InnoLAND Output 2 report.

To gain a better insight in how staff and students assess the structure and content of landscape architecture master programmes a survey was carried out asking about their opinion on: (1) the number of ECTS for a master, (2) the balance between theory and practice, (3) the number of elective subjects, (4) the necessity of an internship period, (5) the admission criteria for graduates of neighbouring disciplines, and (6) the proof needed for admission. The full questions are presented in Appendix 2.

Fifty-three persons in total have answered the survey (26 staff members and 27 students) and we present the conclusions below:

1. the number of ECTS for a master: 120 ECTS;
2. the balance between theory and practice: aiming at 50% – 50% ratio;
3. the number of elective subjects: recommended in the range of 6 – 18 (in average 12) ECTS;
4. the necessity of an internship period: not essential as professional practice is required during traineeship;
5. the admission criteria for graduates of neighbouring disciplines: design skills; artistic skills like drawing; English proficiency if the MLA programme is given in English;
6. the needed of proof for admission: it is reasonable to assess the interview with the candidates as well as their portfolio in order to figure out their motivation; transcript of previous studies in order to offer additional studies if candidates come from the neighbouring fields of study.

References

ECLAS (Bruns, D. et al). 2010. ECLAS Guidance on landscape architecture education. The Tuning Project, ECLAS - LE:NOTRE

InnoLAND. 2022. Pan-European Common Training Framework for Landscape Architecture. Report Output 2 of the Erasmus+ Strategic Partnership InnoLAND. Appendix IV and V.

PART II FRAMEWORK, COMPETENCES AND DIDACTICS

The place of the master programme in the landscape architecture education cycle, staring points for a master level degree, competences based on the proposed Common Training Framework and a didactic approach to teaching and learning.

2. A framework for landscape architecture master programmes

2.1 Context: the place of the master in Landscape Architect's Education Cycle

The majority of study programmes for a landscape architecture degree in Europe are programmes that form a close combination of a bachelor and master degree. Bachelor's-level degree provides students with the tools they need to serve in assistive professional roles and for continuing their educational journey in the master's-level landscape architecture programme. In many European countries, a bachelor level will not provide students with the professional qualifications of a landscape architect, they need to graduate from a master´s degree to fulfil that requirement.

Bachelor graduates acquire the scientific principles, methods and expert knowledge and the basic skills needed in design, planning and management of landscapes. Building upon this, the master's level deepens a student's understanding of the core areas of study in landscape architecture, in scientific work and its professional applications and, most importantly, in the form of studios (project-based studies). Additional specialised knowledge, research and development competences shall ensure that graduates will have obtained the full range of competences that are defined in article 5 of the proposed Common Training Framework (§ 2.3).

At the master's level, students will have the opportunity to develop a personal professional profile and focus on a core area in the field of landscape architecture of their choice. However, the integral approach of landscape architecture must remain the primary element of their education. Core themes of study may be either professional application- or research-based. Quite often the master thesis is a combination of both.

The master degree connotes the successful completion of an education in landscape architecture. It enables people to work independently and, subsequently to completion of a bachelor's degree in landscape architecture and the required professional work experience in accordance with the possible requirements of the national architects' laws, it is one of the main requirements for carrying the professional title of landscape architect.

> As an example, Graduates of the Master's degree programme in landscape architecture possess the following qualities (Aalto University, Finland)
>
> - *The ability to create functional, aesthetically pleasing and durable common landscapes. Graduates are united by their visionary approach to the profession, and they seek to create spaces where humanity and nature can meet and interact in harmony.*
> - *A comprehensive understanding of contemporary environmental issues. Graduates understand the ecological and social responsibilities of their profession and are able to take sustainability into account throughout the design process.*
> - *The ability to apply their multidisciplinary knowledge basis in a profession whose societal significance is becoming increasingly emphasised. Graduates are able to discern the ever-widening and internationally oriented tasks of their profession and understand the significance that different cultures and natural conditions play in their design process.*
> - *The ability to engage in self-directed design work and collaborate with representatives from other, similar fields. Landscape architecture graduates are masters of visual, verbal and written communication, can work with different actors, and are able to coordinate and direct any type of project.*
> - *Confidence in their own creativity and its use in landscape architecture. Graduates are able to utilise their creativity in their work as landscape architects.*

2.2 Starting points for a master level studies – skills gained from LA Bachelor´s degree

Bachelor level studies in landscape architecture form a base for a master degree. In the preferable case, students are moving from the landscape architecture bachelor degree programme to the landscape architecture master. In some

cases their background is different, and universities may accept students with Bachelor degrees in architecture, geography or other related fields. Depending on the programme, extra studies are required to balance the students skills before entering the master´s programme. Also special conversion programmes are in practice (Chapter4).

Starting points for studying at the level of a master programme for landscape architecture are that the students:

a. are mastering the whole range of professional activities: the consecutive phases of the planning and design process for planning, design and management;
b. explore and define the context themselves;
c. define assignments themselves on the basis of a problem field or a general description by a commissioner or group of stakeholders;
d. study and work as professionals seeking feedback from peers and experts;
e. have an excellent overview of the professional field and can define their position in it;
f. contribute to developing the methods and approaches of the discipline.

As an example, after completing a bachelor's-level degree in landscape architecture, and moving further to Master´s level the student possess the following key skills (Aalto University, Finland):

- ***A wide-ranging understanding of landscape architecture.*** *Studies combine the natural sciences with art, design, the humanities and technical expertise, providing graduates with a comprehensive understanding of the factors that influence landscape architecture.*
- ***A familiarity with the natural factors present in landscapes and the ability to analyse them.*** *Graduates understand the significant role that natural factors play in landscape design and planning.*
- ***A basic understanding of the socio-cultural factors inherent to landscapes and the ability to analyse them.*** *Interpreting the cultural and social dimensions of landscapes and understanding the importance of the users and history of a landscape as part of the landscape architecture process.*
- ***A basic understanding of the functional and spatial factors present in landscapes as well as basic information on their structural and technical dimensions.*** *Ability for design solutions that are sound both architecturally and technically.*
- ***A comprehensive understanding of contemporary environmental issues.*** *Understanding of the ecological and social responsibilities of landscape architects and are able to take sustainability into account throughout the design process.*
- ***The ability to thrive both independently and in teams.*** *Ability to work as independent problem solvers who are keenly aware of the role that landscape architects play in multidisciplinary initiatives.*

2.3 Competences based on the draft proposal of CTF

The competences of the master programme are formulated in the common training framework that is defined in Article 5 of the draft proposal of the CTF (InnoLAND, 2022). It defines the core areas of planning, design and management, and a set of competences that a range of aspects of landscape such as system analysis, research, tools and methods, but also to the various types of landscape such as green infrastructure, urban open space, rural landscapes, parks, and gardens. laws and regulations. A complete overview is presented in Table 5.

Table 5. Landscape architecture competences

Competences and description	
Core areas	Landscape Planning for developing plans, policies, strategies, scenarios, and visions for sustainable urban and rural landscapes;
	Landscape Design for the creation of sustainable, functional, meaningful landscapes of an outstanding design quality;
	Landscape Management for developing ecological-based tactical, strategical, and operational landscape management plans.
To meet these needs the study programmes shall provide the learners with opportunity to acquire knowledge, skills and understanding in the following areas:	
1	The structure of the physical landscape as well as the natural systems and processes operating to shape and influence it.
2	The historical development and the land use and management systems that have led to today's landscapes systems and patterns.
3	The development, morphology, and function of human settlements, including their characteristic built form, types and structures.
4	The ways in which individuals, social groups, and society as a whole, both past and present, have perceived, and continue to perceive, value, and interact with their landscapes.
5	The legal, political, institutional and policy frameworks which influence the process of conservation, consumption and sustainable development of landscape resources.
6	Approaches, methods, and techniques for representations during the design process, for presenting the analysis and forecast of the structure, systems and processes of the landscape, including its relevant actors and stakeholders.
7	The precedents of historic and contemporary parks, gardens, planned and designed cultural landscapes, landscape designs and plans.
8	Planning, management and design principles and skills for intervening in landscapes, at different scales of time and space to achieve specific restoration, protection, conservation of development objectives as well as for the wider benefit of the environment, society and economy as a whole.
9	Project implementation, both for management and design, including the materials, both living and inert, including native and exotic vegetation, and techniques and construction standards for contracting, realisation, in accordance with the applicable building regulations, and aftercare.
10	The professional practice of landscape architecture, including the professional ethics, the stages of the planning, design process, construction, and technics as well as the practices of project management.
11	Strategies, methodology and tools for research in landscape architecture on planning, design and management.
12	Transversal and transformative competences of landscape architects to contribute to sustainable landscapes and addressing environmental and societal challenges.

2.4 A didactic approach for landscape - how to teach landscape architecture?

The didactic approach used for developing this programme is based on the theory of Social Constructivism in learning: Vygotsky's (1986) Zone of Proximal Development[1] The learning is called constructivist because the learner must elaborate on and link the new information to other information. It is cumulative learning because this other information should already exist as prior knowledge. It is goal-oriented learning because the learner is only the most receptive for adopting new knowledge if he or she knows what it is for and what it takes for him. Therefore students must be presented with tasks and problems that are consistent and representative of the various contexts in which they will have to apply their acquired knowledge and skills later on in the real profession. This means that assignments, tasks and problems that are used in the learning environment should have a high reality level (EU Land 21, 2018).

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[1] *The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers.*

Learning theories and the position of constructivism

Constructivism is much different from earlier theories such as behaviourism in which a learner is supposed to reproduce specific characteristics by means of repetition of external schemes or through reward or penalty schemes. With the introduction of the cognitivist approach the emphasis shifted to mental skills such as understanding, analysing and evaluating. These skills are the foundation for any type of problem-solving. Learning with models plays an important role as well as the transferability of knowledge and skills from one context to another. Cognitivism accepts that a learner may develop different mental concepts depending on his/her previous knowledge. However, this theory also assumes that there is one correct external model that a learner is supposed to internalise. Therefore, the teacher would take the role of an instructor who is introducing this reference model to the students and constantly observing their practice. Consequently, there might be more or less correct ways of how students succeed in this process.

This is the point where constructivism comes in. This theory assumes that there is no objective way of representing reality. Instead, there are as many constructions of reality as there are people in the world. In a learning context this means: both learners and teachers are constantly constructing realities, meanings and concepts. There can be communication and exchange about these constructions but there is no final model that could be transferred from a sender to a receiver. There is no objective observation (Fetzer, 2013).

Landscape architecture education and the constructivist learning approach

The nature of landscape architecture is procedural and the profession "must aim to take into account multi-layered views of the complexity of the landscape and its associated meanings and values for individuals, groups and society as a whole." (ECLAS 2010: p.18). Furthermore, the emphasis of landscape architecture is on the design, planning and management processes that bring concrete change. Such change management implies knowledge and coordination of numerous spatial, economic and social processes, including involvement of the public. In this context, knowledge creation reveals itself through new forms of spatial organisation. This is the core objective of landscape architecture for which academic courses are supposed to prepare their students.
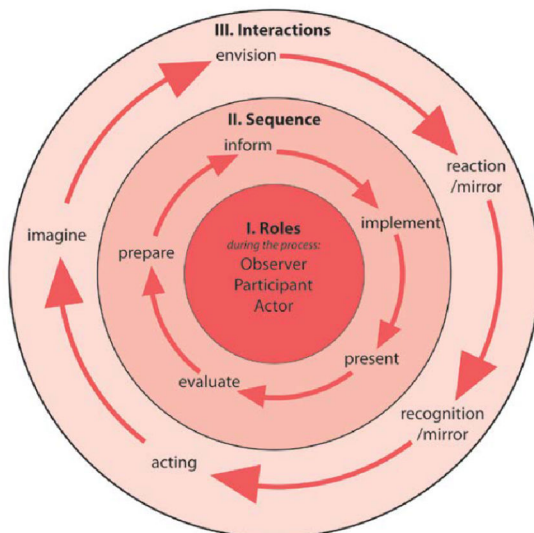
Figure 2. Holistic model for curriculum planning according to constructivist principles. The inner circle shows the roles both teachers and students may take during this process. They always need to be aware of the respective role they are taking. The middle circle shows the logical sequence of activities. This sequence may take place several times and with unpredictable variations. The outer circle refers to the interactions between all actors during this process. Kersten Reich proposes this model for holistic and activity-oriented training. Figure taken from Fetzer, 2014.

Holistic teaching methods such as design studios have a long tradition in this educational context. Design studios are a form of collaborative learning characterised by intensive exchange with group members and peers. Studios serve as a testing ground for all types of knowledge gained in theory and lecture courses. They foster those competences that are needed for taking up the profession. Design studios create a very competence-oriented, constructive and dynamic learning environment. A profound and widely recognized analysis of this process of reflective practice has been done by Donald Schön in his book 'The Reflective Practitioner' (Schön, 1987; EU Land 21, 2019).

The cognitivist approach aims at the development of problem-solving competences. This approach is adequate for evident problems for which transferable problem-solving models can be taught and learnt. Constructivism looks instead for ill-defined or probably even invisible problems in fuzzy and complex situations for which no transferable model exists yet. Such situations are quite common in contemporary landscape architecture practice.

The constructivist convention of 'no single external truth' also applies to the post-modern concept of landscape. Landscape is not an objectively measurable element. Landscapes are actively, constantly, and individually constructed in and by our minds. This construction builds on previous knowledge while being nested and influenced by a cultural context and the values embedded therein. Conceptualising landscape is a part of the knowledge construction process that has been described already. Acting with and within the constructivist landscape approach requires strong generic competences in particular in the fields of diversity appreciation, synthesis (i.e. synthesis of different viewpoints) and knowledge creation (based on this synthesis) to name only the most relevant (EU Land 21, 2019).

Systems thinking as a basis for approaching landscape issues

Landscapes are complex systems, with multi-level processes, a complex range of drivers. In order to address landscape challenges in a well grounded way, systems thinking can help. Systems thinking is a way of making sense of the complexity of the world by looking at it in terms of wholes and relationships rather than by splitting it down into its parts.[1] It has been used as a way of exploring and developing effective action in complex contexts,[2] enabling systems change.[3] Systems thinking draws on and contributes to systems theory and the system sciences. Meadows (2011) offers an approach for landscape architecture which can be used a basis for education.

Teaching modes for Landscape Architecture

The core of the didactic model if formed by learning within the framework of studios. Students develop references by carrying out case studies and study trips. A number of seminars and tutorials provide theoretical and thematic knowledge. During workshops, practical training and internships students develop interpersonal, practical and professional competences. It is important for the variety of competences and different learning styles of students that the programme is composed of a set of various study modes.

Studio learning

In studio courses, which are at the centre of landscape architecture education, students work on planning and design proposals for landscape inventions. Students work either individually or in small groups. Supervision and guidance includes frequent consultations and presentations. Around the studio a set of other teaching modes may be arranged to support specific learning processes. These consist of lectures, seminars, and excursions. In studio learning students act and reflect on their work, ask for peer-review and are guided by teachers (EU Land 21).

According to Powers (2016) The design studio has two important pedagogic functions within design education.

First, it helps facilitate problem based learning (PBL) by providing a realistic environment for acquiring new thinking strategies and subject-specific knowledge associated with the studio project(s). This function exemplifies the strong

relationship between studio and project. Second, the studio helps frame social and cultural norms associated with design and professional practice, including those that are unique to a given discipline. This function of studio often works implicitly through ordinary interactions and perceptions rather than through the project itself. In these two ways, the studio provides a highly suitable environment for learning how to design while impressing upon students the cultural context in which designers typically work.

Studio courses form a very good platform for self-regulated design learning (SRDL), where the central goal is making design learnable so that students are encouraged to become active, engaged participants in the design learning process. Powers (2016) states that self-regulated design learning helps design educators create efficacious, personalized learning events and environments by complementing design learning with self-regulated learning. To do this, SRDL acts as both a theory and framework for learning how to design through goal achievement, metacognition, and active participation on studio projects.

With SRDL students learn how to design through an active, goal-oriented process that purposefully emphasizes mastery over performance. In other words, standout students put learning first and expect to have a standout performance as a result. While this sounds obvious, too many students view learning as marching through a project, over-concerned with how things appear to others and under-concerned with what is to be learned, how best to learn it, and what to do when doing goes awry. Through SRDL, students and their teachers can begin to create environments, activities, and new ways of thinking that optimize project-based design learning in studios while encouraging a sense of autonomy and self-directedness necessary for success in school and beyond.

Concept for linking themes to modules in the landscape architecture master
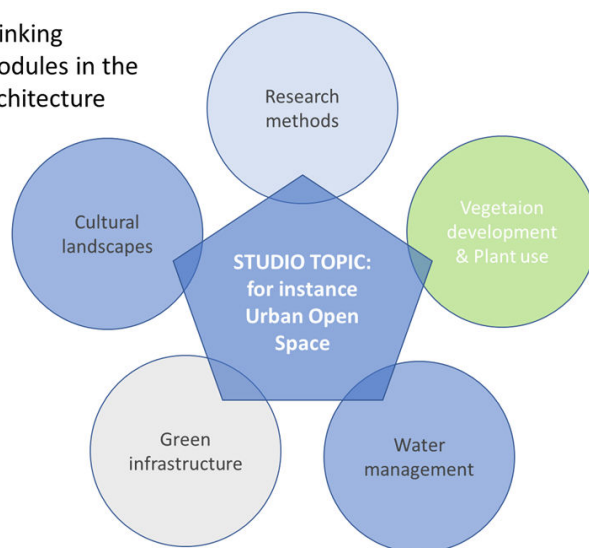
Figure 3. concept for linking themes to modules (source: Self regulate design learning: explaining about studio work (Powers, 2016).

Case studies

Case studies are an effective and established way to use examples in the classroom or studio. Francis (2001) states that: "landscape architecture is predominantly taught by example. Most schools include some form of case study method in their curriculum. Case studies are a useful way for students to gain insight into past projects in order to successfully design new ones. They are particularly instructive in teaching history and useful for students in community outreach projects. Case studies are an excellent way to get students involved in landscape architecture research since the method is easy for students to use."

Excursions/ study trips

Because landscape architecture students should develop a varied set of references for their design work and have a good experience of existing urban and rural landscape excursions are crucial part of courses study trips form an important part of the programme. The excursions can be either prepared by teachers or by students and be related to a studio or to project work. Performing preparatory seminars and writing summary reports enforces the learning effect.

Study trips and excursions, both to reference projects and to the site or planning area, are also needed to enable students to experience their project landscape and to personally collect data and information. Landscape architects must be able to perform their own landscape analysis and, ideally, this analysis is based on immediate exposure to the landscape. Oles et al (2014) provide an inspiring set of ideas, concepts, approaches for field survey.

Lectures and seminars

For theory, development of knowledge lectures and seminars contribute additional information to all courses as well as to the studios. These are important for instruction on the use and selection of methods; included are theories and case studies that are relevant to the studio work. If they are designed to provide interaction between teachers and student's seminars help students to deepen their understanding of theories and to reflect on the content of case studies.

Tutoring

A suitable teaching mode for preparing and writing a paper, or a thesis is a tutoring. This mode of teaching and learning is based on interaction and discussion and mostly done on a one to one basis.

Teaching of practical skills

Different design methods, tools and techniques and different forms of practical work are included into courses/ study modules. After learning the basics, the next step is applying skills within a design project.

Practical exercise(s) are undertaken by students, either individually or in groups, with direct supervision by a teacher or instructor. For the practical work a pre-defined task of the use of specific techniques should be provided.

For best learning effect, practical training may also be linked to studio projects. For example, sketching may be trained during landscape analysis, certain software applications may be trained in connection with designing scenarios and planning alternatives.

Drawing, models, representation and other forms of visual presentation as a core tool for learning, teaching and research. Landscape architecture students should practise visual, verbal and written communication and working with different actors, they should be able to coordinate and direct any type of project.

Workshops

These short, often intensive, courses in which groups of students have a specific (design or planning) task or explore a specific subject in which they participate actively and share their knowledge, skills and experiences. Workshops often include several plenary sessions in which the students show their results to each other or to external parties.

Internships

During an internship students acquire professional competences, and should be included into parts of a full landscape architectural education, either in the bachelor, in a year between, a master or as a post-graduate traineeship. These

consist of an extended period of supervised residency on the part of the student in a design or planning office (or in a nursery or contracting firm) to gain practical work experience. Experience gained during periods of practical training outside of the university should be reflected upon, for example by writing a scientific term paper, or by keeping and discussing a diary, or by preparing a thematic report.

Both in the courses and additionally in the internships be included in the master to apply the acquired competences in an integrated way into projects.

2.5 Integrating Landscape Research in Master programmes

All master students, also of a professional track, need to acquire research competences. For landscape architecture it is important to link the research to the subject specific competences of planning, design and management.

Research and design can relate to each other in at least four distinct manners (Nijhuis & De Vries, 2019):

- **Research for design**: Research is used to inform or validate the design. In other words, knowledge is acquired in a targeted manner as input for the design. This is the most common relationship between design and research.
- **Research on design**: Plan analyses are used to study and organize operational design. It involves finding specific design concepts, principles, precedents, or types as a foundation for future design. This is also known as 'design research'.
- **Research through design:** A form of research where designing and designs are applied as a research strategy. RTD is used to explore, identify, and map possibilities. This process often informs generation and evaluation of alternative idea concepts and ideas.
- **Research about design:** This primarily concerns understanding and identifying design processes through the observations, interviews, and other activities of designers. It yields important starting points for design didactics or other purposes such as specifying the principles of the RTD process.

In practice, combinations of these types are often applied. For a master programme in landscape architecture it is important to focus on research through design, a particular search process that employs design as a means to produce practical-productive knowledge. The objective of design exploration is to produce practical-productive knowledge that enhances or at least changes reality (virtually or literally) by means of exploratory models. Such models combine the mechanisms of research and design.

The kind of research students carry out consists of exploring form by drawing and design alternatives, scenario studies, research on thematic and integral models, comparative studies (alternative designs for one site), describing research (which design approaches are relevant?) and design experiments (scale models or 1:1). The research provides design strategies, design concepts, building blocks for design and design principles that can have a wider application.

The organisation of research can take place in the context of design studios and design projects. It is also part of the final thesis and project work. This calls for an additional role of the teachers and an intensive exchange with commissioners and researchers (Figure 4).
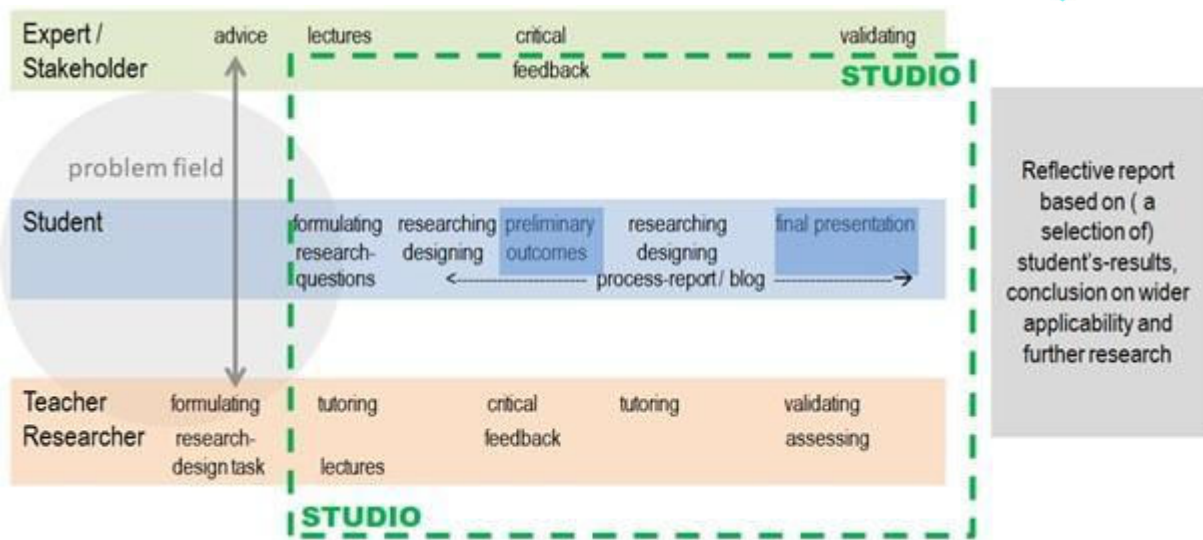
Figure 4 Organisation of research by design in the framework of a design studio

Starting from the question of the commissioner (external or professorship) and the problem area the teacher-researcher formulates the aim of the research and the main research question(s) taking into account the learning outcomes of the studio. Experts and/or local stakeholders give advice. The research-design brief comprises besides the research aim, also a brief with a design programme. Students then define their research questions. For the studio agreements are made for drawing language and process, in order to make the various designs comparable and easy to understand. Notes on the design drawings can clarify starting points, presumptions, choices and principles. Students log their process in order to make their steps and main choices transparent and traceable.

A main task for the teachers is to tutor the design process and at the same time guide students in answering the research questions. During the studio students make use of the knowledge of professional experts (for specific disciplines) and the know-how of stakeholders (for the qualities of the area and the needs of inhabitants and users). Within the course of a studio students usually cannot find time for a reflection on wider applicability of the outcomes. Their research will most of the time serve as underpinning of their design task. For the thesis the students need to write a reflection on the results and draw, supported by additional study (references, case studies), and conclusions for general application.

An important dilemma for research in the context of education is how the course links the research tasks to the learning outcomes and the teaching concept. The school aims for meaningful learning settings, in which the student is able to make his or her own choices.

Participatory action learning and action research (PALAR)
Through partnerships between academics and civil society for democratic change, it is possible to envision transformative processes of change that build on the ambitions and values of experts and communities alike (Schneidewind et al. 2016).

Landscape transformation is a systemic, wicked act that requires constantly monitoring of progress and learning. To link to the common good as defined by UNESCO, the SDGs and a collaborative learning process of teachers, students, professionals and stakeholders the approach of PALAR (Wood, 2020) can be integrated into studio work and seminars. It offers methods to collaborate with communities, residents, and other types of stakeholders in a process of co-creation or co-design. The approach is: (1) Transformative: a way of thinking that is continually open to change, and constantly in search of new ideas, innovations and ways to bring about improvements; (2) Collaborative: actively seeking out and liaising with others, particularly those who hold knowledge that we may not have access to, to create

a synergy that will broaden our minds to the possibilities of change as we work toward attaining mutual goals; and (3) Democratic: everybody should have an equal say in decision making about het what, why, how, who, where and when of the collaborative learning process.

Integration of PALAR into landscape education means that designers and planners can assess their progress toward a goal, engage a continuous dialogue by 'reflection in action'. Students refine their collaborative, democratic skills, and redefine their role as professionals and as citizens.

2.6 Integrating Current European Policies and sustainability competences in LA Education

A great number of EU policies relate to landscape. The InnoLAND report presents in section 3.1 'Impact European education and landscape policies' an overview of the current policies. The policies are forming an important basis for modules in the field of landscape architecture and the most relevant are included as references in the modules. It goes without saying that policies continuously develop, so each master programme needs to keep track of this.

The impact of the main European policies related to landscape for landscape architecture competences is presented in Figure 5.
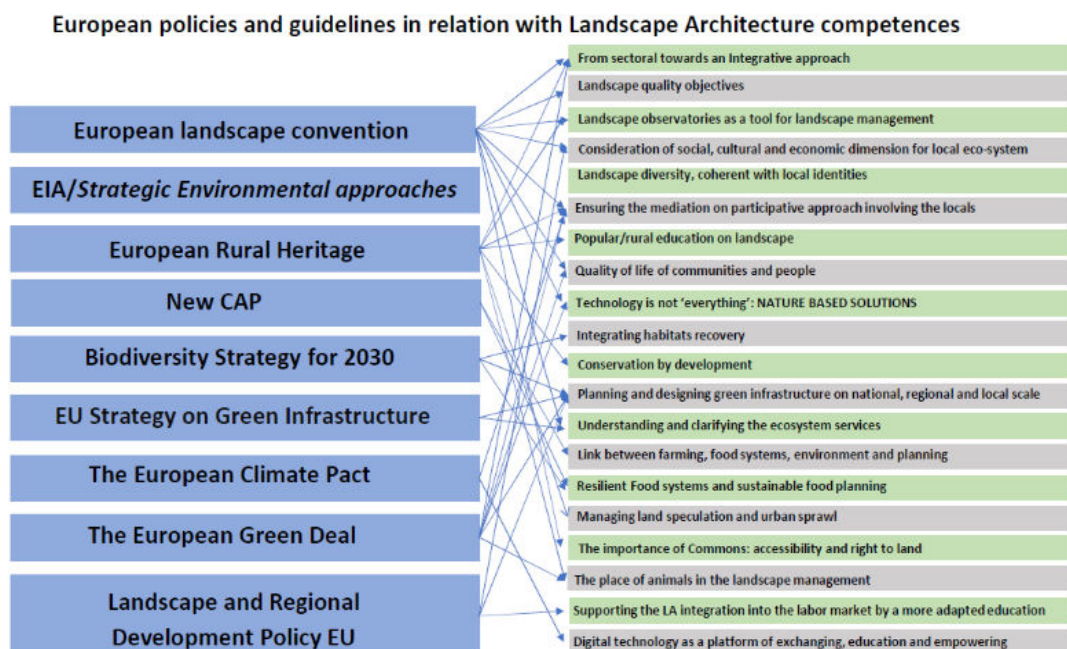
Figure 5. Impact of European and EU policies on competences of Landscape Architects (Triboi, 2013)

In January 2022, the European Commission published GreenComp, a new EU-wide synthesis of how we can understand competences for sustainable development. This document builds upon decades of research in this field and provides us now with a practical framework for operationalising competence development for sustainability in any learning situation. The graphic below visualises what GreenComp comprises Figure 6).
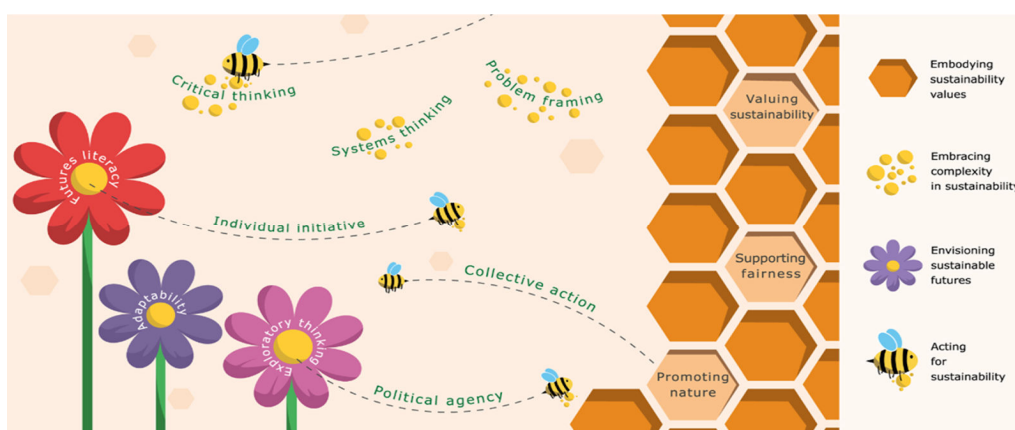
Figure 6. GreenComp The European sustainability competence framework (EC, 2022)

Transformative competences of landscape architects practiced in a transversal way: systems thinking, anticipatory competence, normative competence, strategic competence, collaboration competence, critical thinking, self-awareness, and integral problem-solving in order to contribute to sustainable landscapes that help to face current challenges interactions between natural and cultural ecosystems, such as adaptation and mitigation related to climate change and the stability of ecosystems, socio-economic improvements, and community health and welfare to create places that anticipate social and economic well-being.

2.7 Critical aspects for setting up a new master study programme in landscape architecture

There are many important aspects to mind while planning a new master in landscape architecture programme, and most of them are resolved in the period of running the programme for some time. Preparation should include proper programme planning, development and accreditation, planning for an adequate teaching staff, providing for a proper infrastructure, and other. Some of these conditions are listed in the Guidance document for Recognition or Accreditation by IFLA World and form the basis for IFLA Europe recognition of the LA degree programmes - a quality label. The main relevant, updated with the recent development of the CTF, are presented in Table 6.

Table 6. Aspects for recognition of landscape architecture master programmes

| Aspect	criteria for recognition
Duration	2 years, 120 ECTS
Knowledge areas	Competences covered according the proposed CTF article 5
Studio project work	The amount of ECTS of studio project works should be approximately 50 % of the programme
Adequate teaching staff	At least three full time equivalent academic faculty who hold degrees in landscape architecture, and also an active programme of scholarship and research.
Qualified leadership	Designated programme leader who holds a qualification in landscape architecture.
Adequate infrastructure, facilities and resources	Number of students adjusted according to its teaching capacity. Studios, facilities for research, advanced studies, information and data exchange for new technologies should be provided. Computer technology and the development of specialized software should be incorporated.
Selection of students	Transparent and appropriate selection process at the point of entry in the programme.
Developing and updating a network (local and global)	For the exchange of information, teachers and students, is necessary in order to promote a common understanding and to raise the level of landscape architectural education.
Interaction between the practise and teaching:	Continuous interaction between practice and teaching of landscape architecture must be encouraged and protected.
Research as an inherent activity	Peer reviewed research should be regarded as an inherent activity of landscape architectural professors. This may be founded on project work, methodologies, technologies, ecological and social issues, and other relevant topics.
Support	Necessary learning and support services for the teachers and students.
Evaluation	Self-evaluation and self-analysis of programmes and curriculum is promoted. Educational institutions are advised to create, with the support of the profession, accreditation systems for self-evaluation and peer-review conducted at regular intervals. Included in the review panel should be teachers from other schools, practicing landscape architects and others.
Accreditation	The institution offering the programme must be accredited to offer degrees by the governmental institutional accrediting body of its region or nation.

2.8 Conclusions

Master programmes in landscape architecture aim to provide graduates with full competences to act as professional landscape architect, which includes competences of research and sustainable development. Building upon the basis of their competence as a graduate of a bachelor programme, they are able to coordinate projects, contribute to develop methods and approaches of the discipline. The competences of a full landscape architecture education are defined in Article 5 of the proposed Common Training Framework for landscape architecture. To analyse the landscape systems and processes, ant to develop goals, visions and plans for landscapes requires system thinking.

Education of landscape architects is based on a social constructive approach and problem solving learning where students act, reflect and develop their skills as independent learners. Students act and reflect on their work, ask for peer-review and are guided by teachers. The backbone of the master programme is formed by studio and project work as the basis for teaching and learning making use of real-life projects. Seminars and lectures, which are partly directly related to the studios, provide a theoretical and thematic back ground. Drawing, models, representation and other forms of visual presentation serve as a core tool for learning, teaching and research. Systems thinking is essential for understanding landscape systems and processes, in order to analyse and plan (Meadows, 2011). Case studies, field work, and study trips should be included in the modules and additionally in the internships to gain competences on landscape experience, perception, functioning, etcetera (Oles, 2014)

Studios and project work on a master level should have a role in practice led research. While students carry out this research, academic staff need to provide a framework, make sure that the there is continuity in the research themes and subjects, developing research lines. All master students, also of a professional track, need to acquire research competences. For landscape architecture it is important to link the research to the subject specific competences of planning, design and management.

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PART III ELEMENTS, MODULES, ENTRY AND ASSESSMENT OF THE MLA

A set of seventeen modules that serve as building blocks for composing landscape architecture master programmes. This part also presents the entry requirements to a master course and the assessment strategy and methods.

3.1 Education modules for a master in landscape architecture

A set of seventeen Education Modules define the contents for building different models of exemplar MLA study programmes. These are the bricks that could be used to build a complete MLA programme in a given institute of higher education. Project partners have jointly developed a template for the modules that consists of: the title and code, Competence(s) developed, Language of instruction, EQF level, ECTS credits, Annotation, Aim, Learning outcomes, Actions, Criteria for actions, Results, Criteria for results, Teaching modes with subjects for lectures, Assessment mode, Relation to other modules and References. Modules that are required in the programme have a code that ends with "r", the code of the elective modules end with an "e". An elaboration of all modules can be found in Appendix 4.

The programme built by using the developed modules should have a certain balance of theoretical and project-oriented modules, also balance the required and elective modules depending on the regional, national specifics of the education and labour market. For instance in smaller markets such as in Lithuania, landscape architecture education should provide more universal skills, while in big markets like in Germany or France further specialisations may be an option.

Three studios form the core of the programme, one that focuses on a landscape system approach (EM10r), one on spatial design and narratives in an urban context (EM11r), and a third that combines the approaches of these two (EM12r) into a full professional project. For developing competences in interdisciplinary work a module is designed where landscape students work on an assignment in collaboration with students of other programmes (e.g. architecture, water management, landscape ecology, geography), depending on the type of programmes the university offers .The Final Thesis that includes a final project completes the master (EM16r), which may partly be organised in a studio context.

Table 7. Education modules consisting of studio and project work
InnoLAND EM 10r Integrated Landscape Systems Approach Studio 12 ECTS
InnoLAND-EM11r Urban open space design and green infrastructure planning – 12 ECTS
InnoLAND EM12r Full professional project for landscape planning, design and management – 15-18 ECT
InnoLAND ME 0r Interdisciplinary project – 6 ECTS
InnoLAND-EM 16r Final Thesis: research line (I); professional practice line (II) – 30 ECTS

A set of required modules provide the basis for theory, research, reflection on practice. This modules consist of a combination of lectures and a seminar in which students present to each other their conclusion on readings, case studies, and desk research. On is focused on research methods (EM1r), one on reflection on current practice which can be both on regional, national projects, but also on international reference projects (EM2r) and one seminar deepens the understanding of landscape theory and methodology (EM3r).

Table 8. Education modules forming a theoretical basis
InnoLAND EM 1r Research methodology for landscape design and planning – 6 ECTS
InnoLAND- EM 2r Reflection on current practice of planning and design and management – 6 ECTS
InnoLAND EM 3r Landscape theory and analysis – 6 ECTS

For acquiring a further understanding of various functions and aspects of the planning, design and management of landscapes, a set of elective modules are developed which address current themes, such as sustainable energy, foodscapes, recreation and tourism, water management, and landscape restoration and recovery. Depending on the capacity of the university a selection of these modules may be offered, and students can select them on the basis of their interest or the subject of their studio.

Table 9. Elective education modules for a deeper understanding of current functions and themes
InnoLAND EM 4e Landscape for sustainable energy – 6 ECTS   22
InnoLAND- EM 5e Foodscapes, food systems, short chains, food security – 6 ECTS
InnoLAND EM6e Landscape for sustainable recreation and tourism – 6 ECTS
InnoLAND EM 7e Sustainable water and soil management in landscape – 6 ECTS
InnoLAND EM 8e Waterfront landscapes and areas in the EU regions – 6 ECTS
InnoLAND EM 9e Landscape restoration and recovery – 6 ECTS

Three required modules fulfil a special role in the master programme. One focuses on the aspects of participatory landscape planning, design and management, where students work with stakeholders, communities, residents for developing their plans (EM13r). This module can be linked very well to a studio project. The intensive international workshop, that can last for 5 to 10 days, offers the possibility to work with students and staff who have other cultural and regional back grounds, and where also students of different disciplines may participate. In the workshop students engage with new, unknown landscape contexts and stakeholders (EM14r). The internship period helps student to acquire professional competences and work in a real life office or organisation setting. An internship during a bachelor programme is essential, while including an internship in the master phase may depend on whether there is a post graduate traineeship in place.

Table 10. Education modules with a special role in the programme
InnoLAND EM13r Participatory landscape planning, design and management – 6 ECTS
InnoLAND EM 14r Intensive International Workshop – 6 ECTS
InnoLAND EM15r Internship and sustainable business models for LA practice – 6 - 15 ECTS

Table 11 The possible option of design of an exemplar master programme at VILNIUS TECH University.

Table 11. Possible structure of MLA programme with Education Modules		
Education modules	**Elective Required**	**Type, ECTS**
1 semester: Advanced theory		
EM0r Interdisciplinary assignment focused on data collection, analysis which address a current challenge (climate change, risks, urban heat, loss of biodiversity) connected to a case study or an assignment.	R	Interdisciplinary project 6-9 ECTS, with a "commissioner", collaboration disciplines, depending on the context in the university
EM1r Research methodology for landscape design and planning Research of methodology and practice of landscape design	R	Seminar, 6 ECTS
EM2r Reflection on current practice of planning and design and management (tasks for project critique) Research of methodology and practice of landscape planning	R	Seminar, 6 ECTS with case study work
EM3r Landscape theory and analysis (methods such as landscape character assessment, landscape layers approach, space syntax, landscape perception and landscape units);	R	Seminar, 6 ECTS
2 semester: Electives		
EM4e Landscape for sustainable energy. Energy landscapes; (brief outline, developed by A).	E	Seminar and practical exercise 3 (6) ECTS, related to project
EM5e Foodscapes -productive landscape, food systems, short chains, food security, etc.	E	Seminar 3 (6) ECTS, can be combined with studio work
EM6e Landscape for sustainable recreation and tourism Tourism and recreation;	E	Seminar 3 (6) ECTS, can be combined with studio work)
EM7e Sustainable water and soil management in landscape; (brief outline, developed by B) SUDS	E	Seminar 3 (6) ECTS, can be combined with studio work
EM8e Waterfront landscapes, coastal areas in the EU regions (BSR and other)	E	Seminar 3 (6) ECTS, can be combined with studio work
EM9e Landscape restoration Landscapes recovered after technogenic and other damage to reconnect it to the ecosystem.	E	Seminar 3 (6) ECTS, can be combined with studio or project work
EM10r Full professional project: connecting scales, city region, both system approach and narratives, ranging from the analysis, vision, strategy, master plan to professional designs, detailing and quantities.	R	12 ECTS Studio with integrated lectures

Education modules	Elective Required	Type, ECTS
3 semester: Projects		
EM11r Urban open space, park systems, green infrastructure with stronger relation to users and stakeholders: mainly as **narrative approach, place making;**	R	Studio with integrated lectures 9 (12) ECTS. Could relate to the final thesis
EM12r Integrated landscape systems approach regional, rural with the driving forces, landscape processes	R	Studio with integrated lecture, 9 (12) ECTS
EM13r Participatory landscapes focused on participatory techniques and process in LA, in connection to the project EM11 and EM12.	R	6 ECTS
4 semester: Other and final thesis		
EM14r Intensive international workshop as per InnoLAND C3+C2	R	Workshop – 3 – 6 ECTS (can be in in winter or summer, also an Erasmus ISP
EM15r Internship - sustainable business models for the LA practices;	R - E depending on post traineeship	Internship 6-15, if professional track chosen can be combined with thesis
EM16r preparation of the Thesis and Final project <u>professional practice</u> orientation (70% PP - 30%R)	R	Self-study, reference study, writhing proposal 6 ECTS, related to planning or design project
EM17r preparation of the Thesis and Final project <u>research</u> orientation (70% R - 30% PP)	R	Self-study, reference study, writhing proposal, 6 ECTS, related to final thesis
EM16r Final thesis and project work, e.g. all topics for landscape planning and design, and management	R	Final 15-30

3.2 Criteria for admission

These entry requirements to a master in landscape architecture study programme are based on an analysis of the present state situation in the current MLA programmes of the InnoLAND partner and six other universities in the EU (section 1.3, tab.4).

The competences acquired at bachelor landscape architecture studies should correspond to the ECLAS Guidelines (2010) requirements, covering core, subject specific and generic domains. The general prerequisite is a bachelor degree in landscape architecture (BLA) as a result of studies in an accredited programme, preferably with professional recognition by IFLA Europe. Graduates of the other, but related study programmes may be admitted to the MLA studies upon fulfilling special requirements. Either by following parts of a bachelor programme in landscape architecture or a specific conversion course, which aims to fill the gaps in the knowledge, understanding and skills in LA planning, design and management.

A bachelor diploma equals to level six of the European Qualification Framework. Graduates of a bachelor study should be able to organise their own work and work in a team. They are capable of producing a range of products, such as analysis, plans, designs, visions for landscape architecture. They are able to explore and define the context of the assignment themselves and can define assignments themselves on the basis of a problem field or a general description by a commissioner or group of stakeholders (EULAND-21, 2018, p.15).

Admission to a master requires that the candidate masters the subject-specific competences for landscape architecture. They need to have competences for landscape design, landscape planning and landscape management, including the capacity to carry out a landscape analysis for this, although there might be different focuses on one of these core competences. They need to have knowledge on theory and methodology in landscape architecture. The projects they carried out should be concerning urban open space, cultural landscapes, parks and gardens. Graduates need to master materials and construction techniques, vegetation establishment and plant materials and be able to apply information technology in landscape architecture. Completion of an internship in a landscape architecture or related office is a requirement. A table listing the subject specific competences is presented hereafter.

Table 12. Blocks of competences at bachelor study programme

Type of competence	Blocks of Competences / Learning line	
Basic	G1	Landscape architecture foundation, background and supporting competences
Theory	A1	Theory and Methodology in Landscape Architecture
Process of Planning, Design & Management	B1	Landscape Design
	B2	Landscape Planning
	B3	Landscape Management
Categories of projects	C1	Urban Open Space Planning (and Policy)
	C2	Interpretation and Conservation/Management of Cultural Landscapes
	C3	Conservation/Management of Parks and Gardens
	C4	Planning/Design for Infrastructure Projects (and Landscape Impacts)
Vegetation & Materials	D1	Materials and Construction Techniques
	D2	Vegetation Establishment and Plant Materials
Tools	E1	Information Technology in Landscape Architecture
Practice	F1	Professional Practice of Landscape Architecture & Entrepreneurship

Source: EU-LAND21, 2018, p 15

3.2 Assessing earlier acquired competences of candidates

Candidates who have successfully completed a bachelor in the field of landscape architecture can be admitted on the basis of their diploma. Master programmes can set some additional conditions such as the level of mastering a second language and the average grade or level graduates received for the final project and thesis of the bachelor.

Other candidates, who have earlier acquired competences, for instance a partly completed programme in combination with a period of working in a landscape architecture office, might be eligible to enter the programme on the basis of a portfolio of their work and an assessment. The admission process can consist of the steps presented in the box hereafter.

1. Submitting:
   a. a CV + diplomas of degrees (with an explanation of the main competences)
   b. portfolio with projects, plans and work
   c. motivation letter
   d. optional: professional practice period at a planning office
   e. a two-minutes video in which the applicant explains in English a project or plan.
2. Admission interview.
3. Decision on the admission: either not accepted, accepted without conditions or accepted with the obligation to acquire missing competences.

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4. Assessment strategy and methods

The assessment methods and criteria are included into the description of all educational modules in Appendix 4 in balanced, diversified and coherent ways. This chapter describes the assessment strategy and approach, with the different modes of assessment.

4.1 Assessment strategy

The success of an assessment is linked to a clear definition of the learning objectives as well as to the assessment criteria to be used and known by the students. The assessment should be carried out in several stages, contributing each stage with a percentage of the grades. It must also be considered the generic competences, skills, capacity study and critical ability (fundamental in terms of master levels).

It implies the understanding of the evaluation in the perspective that it provides useful information, and it allows the improvement of the quality of the teaching process, simultaneously, in terms of the validity of the results and efficiency of the methods used. According to several experts, the assessment should be followed through in the sense of a formative assessment, centred on the improvement of learning where the results of the objectives to be achieved are evaluated. So, the evaluation to be carried out will have to be continuous, cumulative, descriptive, and explanatory.

As the study plan is based on modules of design, management and planning, the following aspects should be considered:

– Define explicit evaluation criteria which should be provided to the students in time;
– Include evaluation criteria tending to be objective;
– Face the assessment as a teaching moment, with an opportunity for joining the reflections and guidance given to the student in order to overcome the most noted difficulties;
– Focusing assessment issues more on the design, planning and management process and on the reflections that accompany the disciplinary domain and professional activity, and less on the products achieved.

4.2. Combining the assessment methods

Programme assessment is mostly formative and takes place in a variety of formats, including examinations (written essays, reports, dairy, poster, oral examination) and peer assessment. Student progress is also monitored based on continuous assessment.

While the form of assessment may vary, it is linked to clearly defined goals and anticipated learning outcomes. The assessment takes place on the level of a module or course.

The assessment of landscape architecture study plan is based on the following basic principles and guidelines:

a. The assessments of design and planning (studios simulations) also involve input and feedback from the professional practice, stakeholders, and the community.
b. Assessment supports the teaching aims of the various components of the program. The learning objectives and specified outcome is matched with an appropriate assessment, whether for knowledge, understanding or skills, which should be transparent and known to the students in the beginning of each module or course.
c. Substantive knowledge and understanding are assessed through essays and oral examination;
d. Design, planning and management plans are assessed on design/plans, documents, multimedia presentations, oral presentations, students' sketch book and oral examination;

e. Management and communication skills are assessed through peer assessment and during the working-while-learning period.

f. The transversal (generic) competences are assessed according to the overall matrix in section 5.5. Students are asked to reflect on these in process or sketch books.

g. The assessment methods ensure that lecturers can monitor the progress of individual student at each stage of the program.

4.3. Flexibility and transparency in assessment

Assessment informs each student of the individual level of attainment against the learning objectives set for each component of the study program:

− After the conclusion of a landscape design or planning, the commissioner and advisor from the professional practice or governmental organization, the stockholders and the community should give the students feedback on their results and performances, setting it against a professional benchmark;

− In the class the teachers discuss the results of the essays;

− Students' performance and progress as landscape architects is discussed, both individually and within the design/planning groups.

The criteria whereby each individual assessment is judged should be clear to the assessors and students alike. These criteria are appropriate to the learning outcomes to be assessed and to the range of attainments expected for the level of work.

Where outside professional assessors are involved, the assessment procedures are discussed thoroughly with these assessors, to ensure that they fulfil the program criteria and satisfy general academic standards. However, the final responsibility for the assessment lies with the teachers at the universities.

The assessment methods and criteria enable each student to fully recognize the levels of knowledge and skills they must attain to meet the requirements of the program. The description of each course should contain the assessment forms (including the assessment criteria and their relative weight).

In each module or course the main ways of assessment are defined. A short description is given in Table 13.

Table 13. Assessment modes in landscape architecture

Code	Assessment mode	Description
EXW	Written Examination	An external (i.e. assessed by an exam board) or internal (i.e. assessed by a teacher) written assessment taken at the end of a course unit or later in the academic year.
EXO	Oral Examination	An external (i.e. assessed by an exam board) or internal (i.e. assessed by a teacher) oral assessment taken at the end of a module (or course unit) or later in the academic year. The oral examination is performed by at least two assessors and the student receives afterwards a short assessment scheme with the results. One assessor communicates the outcome of the oral examination directly after the session.
TES	Test	Written tests taken within the normal teaching period as part of an annual or the final assessment.
PPR	Poster Presentation	A written or oral presentation of some work on a display which can be read by a number of people. Used by individuals or groups to demonstrate work undertaken individually or collectively. Poster presentations are enjoyed by invited professionals.

Table 13. Assessment modes in landscape architecture

REP	Report	Documents which present detailed interpretation and content, and critical analysis of the results of an experiment, investigation and/or project on a particular topic or area. A report usually contains different sections, such as introduction, methods, results, discussion and conclusion.
PDI	Project Diary / Process Report	Container for writing that is recorded over a period of time. The writing may accompany a programme of learning, work, fieldwork or placement experience or a research project. It may be highly structured or 'free'. technical and design aspects (detail drawings,) can improve the written content. It can also comprise the student's reflection on his or her own progress in acquiring (generic) competences).
ESS	Essay	Essay can be used as an assessment method to determine student understanding of course content and/or issues as well as students' opinions and perceptions.
SKB	Sketch Book	A document of sketches (visual thinking) about a project, field study etc. This assessment mode normally taken within the normal teaching period as part of an annual or the final assessment.

PART IV STRUCTURE OF THE MASTER IN LANDSCAPE ARCHTICTURE

Using the educational modules that are presented in Part III various models of master programmes are explored. The alternatives are discussed leading to a set of criteria for exemplar models.

5. Alternative models for the structure of LA Masters – TU Wien

5.1 Explored MLA models in the InnoLAND project

InnoLAND developed multiple structural models for a potential master's program in landscape architecture. The results were presented and discussed during several meetings, evaluating the following features:

Duration of studies: according to the guidelines of the Bologna Agreement, the length of a Master's program that is set up upon a Bachelor degree in Landscape Architecture is set at a minimum of 120 ECTS / 2 years of education

Required subjects versus elective subjects: All models developed show a certain proportion of freely selectable subjects or modules, whereby a distinction must be made between the elective model "one out of a given bundle of Subjects or modules' ' and the model "unlimited offer". The relationship between freely selectable and compulsory teaching was assessed differently in the discussion. Factors such as teaching traditions, university resources, structure of the Bachelor's degree, etc. play a decisive role. There is agreement on the increasing need for in-depth content in the course of the Master program. Thus, it must be ensured that individual specialisation options can be offered during the education.

Thesis: In all models, the last semester is dedicated to the thesis. Models with 15 to 30 ECTS were presented in the discussions. With a lower ECTS allocation, special supplementary in-depth seminars with a close relation to the thesis are often proposed. An important point in the discussion was the possibility of not only allowing project-based final theses, but also promoting research work.

Internship: The need for a practice-based experience in the degree program was welcomed in the discussion. The implementation of this practical experience in a curriculum was discussed controversially: Since the Master's degree is only 120 ECTS, an internship cannot include a full-time job over several months. On the other hand, short-term internships are not attractive to professional offices. Presented models with internships have settled on about 10 ECTS. (30 working days) as a compromise. The national legal framework for teaching in the various counties must also be taken into account, in which by law internships may not be offered as teaching content in a curriculum.

Theory subjects versus project-based teaching: In all the structural models, both theoretical and project-based teaching content is represented. The relationship between theory and projects was discussed differently. Here again, factors such as teaching traditions, positioning of the university, resources of the university, structure of the Bachelor's degree have to be taken into account. In all proposals the projects contend must be assignable to the core competences "Landscape Design, Landscape planning and landscape Management", whereby a certain scope in terms of objectives and scale is desired. To acquire the corresponding competencies in project-related teaching, models were developed that combined practice-oriented teaching content with accompanying methodological instruction.

5.2 Criteria for exemplar models

As a summary of the joint discussions, the following general criteria can be stated:

1) Minimum 120 ECTS or 2 years (Special forms with longer study duration are possible, see Chapter 6 on conversion masters).
2) The Master includes a balanced ratio of theoretical and practical teaching content. A minimum of 50% project work (without diploma) should be aimed.
3) The Master has to include both elective and compulsory modules. Depending on the available resources, students must be offered a choice of specialisation in the fields of landscape planning, design and management.

4) The core of the master is formed by a sequence of landscape architecture studios that relate to both urban and rural projects, both landscape systems and local design approaches, working across various scales and time lines.

5) The thesis work comprises at least 15 ECTS. In addition to project-related work, theoretical theses should also be part of the final work.

6) An internship with a maximum of 15 ECTS is recommended

5.3. Structural exemplar models

The following figures represent potential methods of incorporating the established criteria across various levels within a program structure, while balancing theory and practice (Figure 7), the division between required and elective courses (Figure 8), linking specific themes within a semester or in a strand (Figure 9), and integration of a summer school and internship in the master programme (Figure 10). In appendix 3 a number of alternatives are presented that show how the modules can be used to build a programme.

Basic Structure Structure – Balance between Theory (Lectures), practical Work (Studios) 50%, fully elective Subjects 10%

| First semester | Second semester | Third semester | Fourth semester |

Theory: Lectures Seminars

Practical Project Work: Landscape Design / -Planning / - Management
50 % min

ELECTIVE SPACE
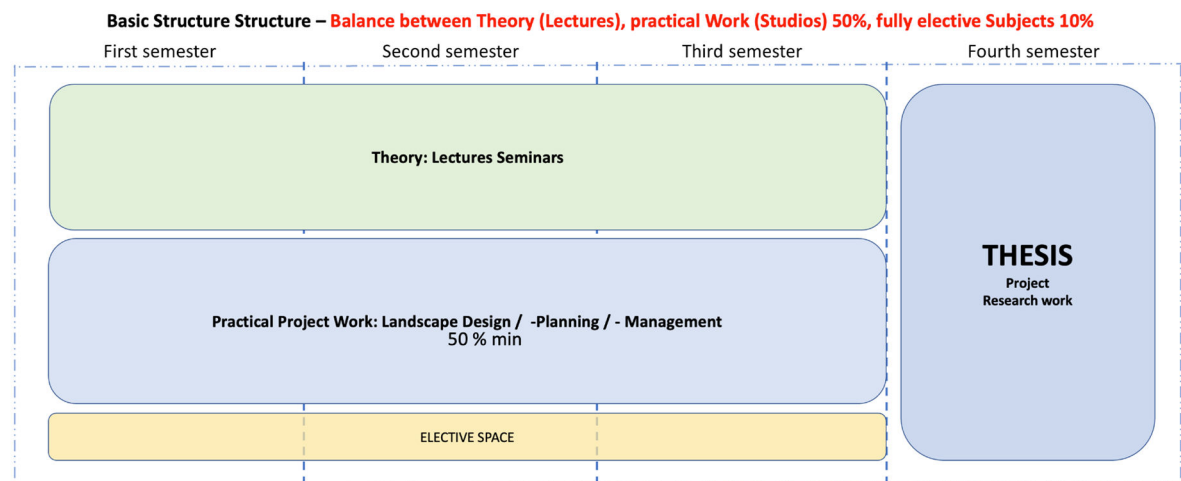
THESIS
Project
Research work

Figure 7 A model with a balanced distribution of theoretical and practical coursework. Approximately 10% of the modules are available for students to choose freely. The fourth semester is designated for thesis work.

Elective + required Modules (one out of a few, one out of many)

| First semester | Second semester | Third semester | Fourth semester |

Emr Lectures / Theory

Emr Project/studio
Design / Planning /
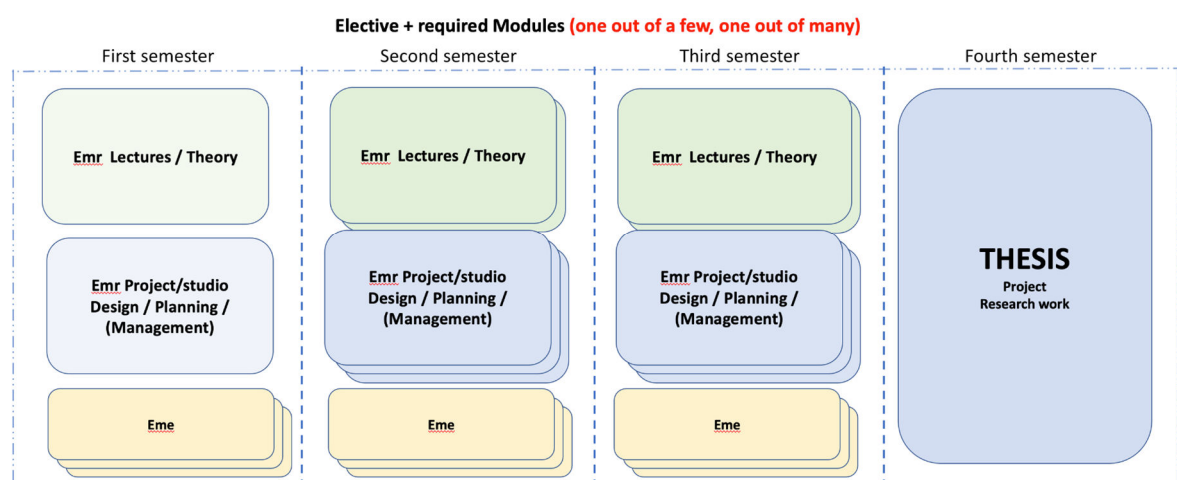(Management)

Eme

THESIS
Project
Research work

Figure 8. A potential structure for required (EMr) and elective (EMe) modules. The second and third semesters are modelled as "choose one out of a given bundle of modules".
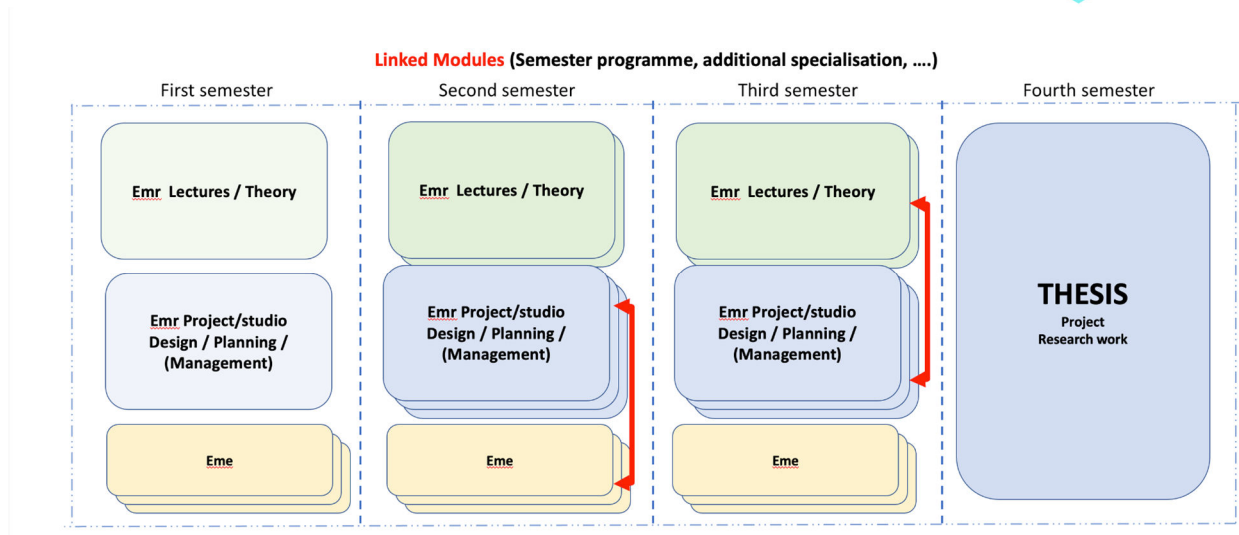
Linked Modules (Semester programme, additional specialisation, ….)

| First semester | Second semester | Third semester | Fourth semester |

Emr Lectures / Theory | Emr Lectures / Theory | Emr Lectures / Theory

Emr Project/studio Design / Planning / (Management) | Emr Project/studio Design / Planning / (Management) | Emr Project/studio Design / Planning / (Management)

Eme | Eme | Eme

THESIS
Project
Research work

Figure 9: A program structure that can have vertical links (for example a semester-topic), as well as a consecutive horizontal structure of modules.

Integration of special Modules

| First semester | Second semester | Third semester | Fourth semester |

Emr Lectures / Theory | Emr Lectures / Theory | Emr Lectures / Theory

Emr Project/studio Design / Planning / (Management) | **SUMMERSCHOOL** Project/studio Design / Planning / (Management) | Emr Project/studio Design / Planning / (Management)

Eme | Eme | **INTERNSHIP**
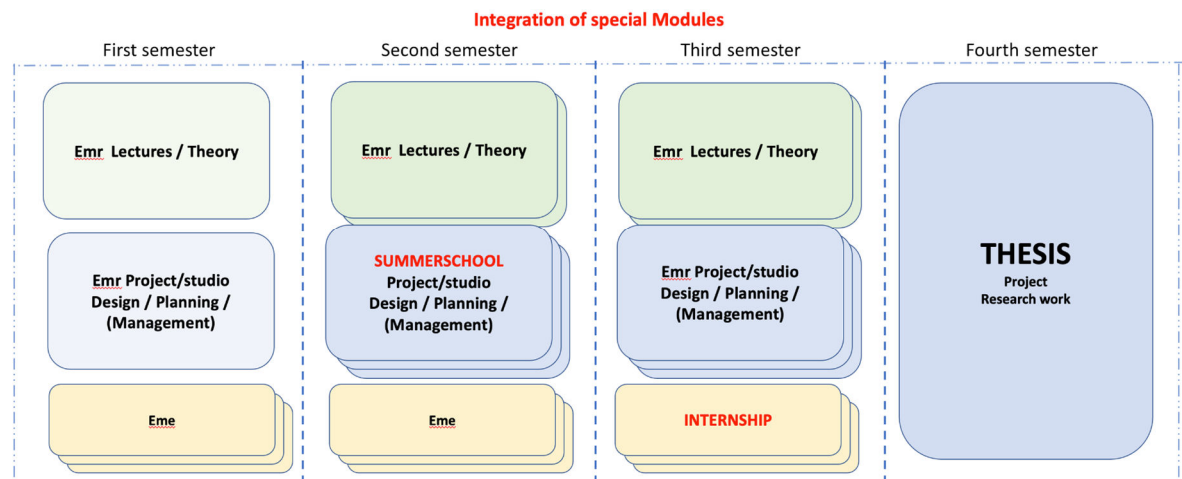
THESIS
Project
Research work

Figure 10: A possible integration of summer school and internships into the program.

5.4 Educational strands for MLA

The alternative structures presented in this chapter, show that although every master should make sure that the required competences are addressed, there is a possibility for a special focus of the programme and for each student. Programmes should allow for:

- adapting to the strategy and policy of the university and the context of research institutes connected to it;
- adapting to regional culture, work field and landscapes;
- adapting to current needs in society.

Master level students also should be enabled to define their own personal profile which can be formed by elective modules, their role and task in studios, their interpretation of the assignments and of course by the theme and type of landscape of their final thesis and project work.

Possible strands and focus

Programmes can on specific aspects of landscape architecture, more planning, design, management oriented, and be coloured by regional characteristics.

Programmes can be more research oriented or more professional practice oriented, although it is not necessary to develop different programmes for that. The focus can consist of students selecting specific modules and opting for a focus in the final thesis and project work.

Wageningen University in the Netherlands for example offers two specific tracks which can easily be integrated in any master programme (see box).

The professional track includes the Atelier Landscape Architecture and Planning course and skills modules (Year 1) and an internship (SP) / Master Project (LA) (Year 2). We advise to choose this track if you wish to:
* *Focus on professional spatial planning and design issues.*
* *Work as a reflective practitioner in the public or private (design) sector.*
* *Explore the professional practice of landscape designers and/or spatial planners.*

The research track includes an early start of the MSc thesis (Year 1 Period 6), a Research Practice, and the course Research Master Cluster: Proposal Writing. We advise to choose this track if you wish to:
* *Pursue a career in research.*
* *Continue with PhD research after graduation.*
* *Work as a landscape researcher.*

Source: MSc programme landscape architecture and planning

Programmes can also have a special focus because of their main research agendas and develop research lines that influence the content of studios, project work and theses. One of the research themes of Sheffield University (UK) is for instance the application of naturalistic herbaceous planting.

5.5 Organising and evaluation the competences in a programme

In order to assess whether graduates master the required competences, each programme needs to make an overview of in which modules which competences are acquired and assessed. For this there should be a transparent presentation how the subject specific, transversal and/or generic competences are acquired and assessed in the course of the programme. This can be done by composing a matrix with all the modules and the competences. It may be necessary to reorganise some of the modules, when it becomes clear that some of the competences are not well enough practiced or when a clear moment of evaluation is lacking. Based on the modules that are presented in chapter 2.1 and Appendix 4 such a matrix was developed (Figure 11). However, each programme needs to develop such a matrix for the selected structure of the study programme.

Figure 11. matrix showing the relation of competences and all the InnoLAND modules.

	ME 0r Interdisciplinary project	EM 1r Research methodology for landscape design and planning	EM 2r Reflection on current practice of planning and design and management	EM 3r Landscape theory and analysis	EM 4e Landscape for sustainable energy	EM 5e Foodscapes, food systems, short chains, food security	EM6ie Landscape for sustainable recreation and tourism	Sustainable water and soil management in landscape	EM 8e Waterfront landscapes and areas in the EU regions	EM 9e Landscape restoration and recovery	EM 10r Integrated Landscape Systems Approach Studio	EM11r Urban open space design and green infrastructure planning	EM12r Full professional project for landscape planning, design and management	EM13r Participatory landscape planning, design and management	EM 14r Intensive International Workshop	EM15r Internship sustainable business models for the LA practices	EM 16r Final Thesis: research line (I); professional practice line (II)
NUMBER OF ECTS ->	6	6	6	6	6	6	6	6	6	6	12	12	18	6	6	12-18	30
Subject specific competences																	
C1 Landscape Planning	X	X	X	X	X	X	X			X	X	X		X		X	X
C2 Landscape Design	X	X	X	X				X	X	X	X	X	X	X		X	X
C3 Landscape Management	X	X	X	X			X	X	X	X	X	X	X	X		X	X
1 The structure of the physical landscape as well as the natural systems and processes operating to shape and influence it.	X									X		X		X			
2 The historical development and the land use and management systems that have led to today's landscapes systems and patterns.											X		X				
3 The development, morphology, and function of human settlements, including their characteristic built form, types and structures.											X	X	X				
4 The ways in which individuals, social groups, and society as a whole, both past and present, have perceived, and continue to perceive, value, and interact with their landscapes.							X								X	X	
5 The legal, political, institutional and policy frameworks which influence the process of conservation, consumption and sustainable development of landscape resources.											X		X	X			
6 Approaches, methods & techniques for representations during the design process, for presenting the analysis and forecast of the structure, systems and processes of the landscape, including its relevant actors and stakeholders.															X		
7 The precedents of historic and contemporary parks, gardens, planned and designed cultural landscapes, landscape designs and plans.			X									X	X				
8 Planning, management and design principles and skills for intervening in landscapes, at different scales of time and space to achieve specific restoration, protection, conservation of development objectives as well as for the wider benefit of the environment, society and economy as a whole.						X	X										
9 Project implementation, both for management and design, including the materials, both living and inert, including native and exotic vegetation, and techniques and construction standards for contracting, realisation, in accordance with the applicable building regulations, and aftercare.									X				X	X		X	
10 The professional practice of landscape architecture, including the professional ethics, the stages of the planning, design process, construction, and technics as well as the practices of project management.																X	
11 Strategies, methodology & tools for research in landscape architecture on planning, design and management.		X		X										X			X
12 Transversal and transformative competences																	
12a Systems thinking competency	X			X	X	X			X	X	X	X	X	X	X	X	X
12b Anticipatory competency						X			X	X	X	X	X		X		X
12c Normative competency		X										X	X		X		X
12d Strategic competency					X	X	X	X				X			X		X
12e Collaboration competency	X							X	X		X	X	X		X		X
12f Critical thinking competency	X	X	X	X					X		X		X	X	X		X
12g Self-awareness competency	X	X	X	X			X					X			X	X	X
12h Integrated problem-solving competency							X				X	X		X			X
Cultural awareness and expression competence															X		

References

websites

https://www.wur.nl/en/education-programmes/master/msc-programmes/msc-landscape-architecture-and-planning/specialisations-of-landscape-architecture-and-planning.htm

6. The role of conversion masters

This chapter aims to develop a deeper understanding of the position, role and content of developing conversion master's in landscape architecture.

A conversion master' programme is a specific type of degree aimed at providing graduates from 1st and 2nd cycle programmes in neighbouring disciplines the opportunity to gain a professional qualification in landscape architecture. Coming from a neighbouring discipline – such as architecture, urban and regional planning, geography or biology – applicants to a conversion master programme will have already acquired a range of competences that also are relevant for landscape architecture. While each of these will have their own specific contribution to landscape planning, design and management, these competences alone cannot compensate for the three years of studies in a first cycle landscape architecture programme (ECLAS 2010).

A conversion master programme is thus different from consecutive a 2nd cycle landscape architecture programme that is designed for graduates who have earned a first landscape architecture degree.

Entering a conversion master programme is particularly challenging. Students of neighbouring fields who are motivated to undertake the transfer to landscape architecture are often mature students, and will be highly motivated and ready to make rapid progress from the start. These students will be interested to test generic and specific competences they have acquired during studies for their previous undergraduate degree. This suggests that students should be selected and not that 'anyone' with a first degree in a related discipline should necessarily be accepted. Some kind of creative ability/design talent is usually a pre-condition.

Characteristics
Characteristics of CMs which are different from regular MLAs [r2] are: (1) the entrance requirements, (2) the number of credit points, (3) focus on the main competences for landscape architecture, and (4) integration of multidisciplinary work. The programmes are different because the needs of the different groups of students are different.

The entrance requirements
Special entrance and performance requirements may be defined. Applicants should be evaluated against a set of performance criteria and, depending on local traditions, clarify the competences they acquired in their former study and work, submit a portfolio of plans and projects they worked on, and pass an admission test. Graduates of bachelor degrees will already have gained generic competences such as; visual, oral and written communication, problem solving, dealing with complexity, reflective practice and the ability to learn from failures, and capacity of argumentation and abstraction.

It may be required that applicants have achieved above average or specific grades during their first cycle studies. Apart from this, also graduates of master programmes of neighbouring disciplines can be accepted. Normally graduates from specific neighbouring disciplines, such as building architecture, interior design, spatial and urban planning, landscape ecology and forestry may be admitted to conversion masters programmes.

The number of credit points
In order to gain those competences that students obtain during a first cycle landscape architecture programme, a conversion master programme will have a work load that is greater than that of a regular 2nd cycle landscape architecture programme of 120 ECTS. It may have 180 ECTS units, as in the case in a typical North American '1st Professional Degree'. For mature students, who combine their work with study, it is helpful if these credits can be acquired over a longer period. This calls for a programme that can also be followed in part-time mode or in concurrency with working at a landscape architecture office.

Focus on the core competences of landscape architecture

A second cycle landscape architecture programme might aim to provide a range of options for specialisation; students should not only continue to develop their knowledge and understanding of the subject gained during previous studies, but also to focus on a field of special interest and expertise. A 'conversion master', on the other hand, will itself have to provide much of the basic competences that students were unable to obtain during their previous education. For this there should be a flexible path, that aims to provide the students with that part of landscape architecture competences they missed out in their former study, either more oriented on design and planning skills or more oriented on landscape systems, processes, ecology, planting and vegetation. The fixed part should not provide specialisation but comprise the main competences for planning, design and management of landscapes, by linking different scales of working, taking into account the aspect of time and working in a holistic way.

Integrating multidisciplinary work

Special in the conversion master is the opportunity to work with and learn from colleagues with different but complementary backgrounds. Working alongside and in cooperation with a 'team' of graduates from a range of relevant disciplines include opportunities for students to learn from each other. This usually takes place naturally during interaction between students and should not need to be 'planned for' as part of the programme. This usually takes place naturally during interaction between students and should not need to be 'planned for' as part of the programme. Programme participants will be able to profit from a wide fund of knowledge and also exposed to a range of different approaches that are to be found within a student body of a conversion master programme. This also helps their future work in multidisciplinary teams in projects and offices.

6.1 State of affairs

In the list of IFLA Europe schools there are no programmes presented that are defined as conversion masters. An internet search showed that this kind of master is mainly offered in the United Kingdom. In the UK the Landscape Institute has accredited nine conversion programmes (Table 14).

Table 14. Overview of conversion masters in the United Kingdom accredited by the Landscape Institute

Course provider	Course name and degree
Birmingham city University	Landscape architecture MA
Kingston University	Landscape architecture MLA
Manchester school of architecture	Landscape architecture MLA
Newcastle University	Landscape architecture MA
The Bartlett University College London	Landscape architecture MLA
University of East London	MA Professional Landscape architecture with conversion
University of Gloucestershire	Landscape architecture Postgraduate Diploma / MA
University of Greenwich	Landscape architecture MLA
University of Sheffield	MA/ PGDip Landscape architecture
	Source: https://www.chooselandscape.org/courses/

In the US the universities of Cornell, UC Berkeley and Harvard offer conversion programmes. In South Africa the University of Cape Town offers a separate conversion course, that enables graduates to be admitted to the regular master programme for Landscape Architecture. In Australia the University of West Australia offers a conversion master.

> *The degree programs are designed to accommodate a variety of academic backgrounds, both with and without design training in landscape architecture and architecture. Therefore, each student's curriculum plan is tailored to the individual's specific background and academic goals.*
>
> *Source : https://cals.cornell.edu/landscape-architecture/programs/master-landscape-architecture*

In Germany the International Master of Landscape Architecture offered by HfWU and HSWT also accepts graduates of bachelor degree courses in Landscape Management, Architecture, Urban Planning, Spatial Planning, Environmental Planning or related disciplines with a planning and spatial relevance. In Romania Ion Mincu accepts bachelor graduates from neighbouring disciplines in the master track. The same may go for other universities in Europe. Programmes which allow graduates of other disciplines to enter consecutive master programmes after completing some catch-up course units are not true conversion masters. In order to educate fully qualified landscape architects, a solid conversion course is called for.

6.2 Discussion

Although it was felt that the main focus should be on providing high standards for full programmes in regular landscape architecture education, there is a demand by graduates of other bachelor degrees. In some countries still bachelor programmes are missing or in development, in this case conversion masters can fill a gap in the education. Besides this they offer: (1) an alternative route of entry for people wishing to become landscape architects but who are past the age of starting on a bachelor programme and also have relevant knowledge and experience in a related discipline; (2) an alternative stream of potential entrants to the profession at a time when the numbers of school leaves are falling due to demographic developments. By providing a legitimate route for people qualified in related disciplines to enter the profession it also makes it harder for non-qualified members of related disciplines to justify working in the field of landscape architecture.

Ignatieva (2019) states: 'There is one more rising common tendency in all five programs into which I have taught. There is a growing number of professional conversion programs that offer a 1- or 2-year Master of Landscape Architecture (MLA) to people with a bachelor's degree from another discipline. At the time of the global financial crisis, with dramatic changes in demographics and technological progress, such a model became very attractive. This kind of flexibility and availability of alternative pathways had its roots in the Anglo- American system, which is closely connected to the market economy.

Makhzoumi (2022) states that regarding the rift in landscape education between science faculties and architecture, and the titles they confer, respectively 'landscape engineer' and 'landscape architect', it is important not only to accept but celebrate the fluidity of landscape education, that the discipline bridges the sciences, social sciences, art, and architecture. Reflecting on the ECLAS 2019 conference celebrating 100 years of landscape architecture education, Andreucci (2019, p. 96) points out "that the unique position of our discipline lies in that the very sphere it operates in allows for the enriching influence and contamination of various others, including but not limited to ecology, engineering and social sciences". She concludes that it is important to encourage the conversion of architects to the landscape approach (see box).

> *If we accept that the underlying aim of landscape education is to enable an expansive, dynamic, and scalar framing of the world we inhabit, to recognise global landscape interconnectedness while conceding to cultural specificities, then the 'conversion' of architects to the 'landscape' approach should be encouraged. After all, architecture is an established profession, with large numbers in practice and education, that can benefit from the landscape approach to contribute to a better future at the local, regional, and global levels (Makhzoumi 2022).*

To develop some advice we discuss the advantage, the entry requirements, the process of admittance, the duration and number of ECTS, and the focus and structure of the course.

The advantage of a conversion master above a standard master that combines access with a selection of courses of the bachelor in landscape architecture
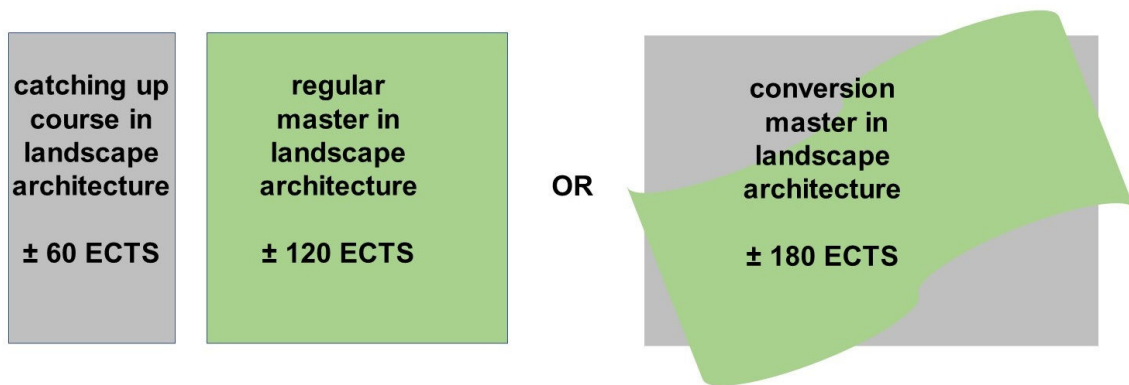

Figure 12. Model a: a catching up course combined with a regular master versus model b: a conversion master.

Both models for conversion can serve the growing interest of neighbouring disciplines to acquire landscape competences. However, the model b conversion master is better positioned for public communication and attracting students. Model b can be used if in a country or region there are no bachelor programmes in landscape architecture existing[r4] . The advantage of model a conversion course combined with a regular master is that students are working in an interdisciplinary groups that consist both of regular landscape architecture students and students that have another background. In this way both types of students are better prepared for interdisciplinary teams and better equipped for meeting complex challenges. A disadvantage may be that students differ too much in their ambitions and capacities, which might make working in a team more difficult. For this, students might be tempted to divide tasks and fall back doing the type of activities they already master. Landscape architecture offices will benefit from employing graduates of conversion masters as staff because they will bring with them competences of various disciplines to an integral and interdisciplinary landscape approach.

Need for the development of conversion master versus catching up courses

For professionals who already working in the field, a conversion course might be more acceptable to start with, because committing to a three-year programme might a too long period. This is why some kind of hybrid full-time – part-time model could be good: to cater for people who are already working in the relevant offices. In countries where a lot of architects are working on landscape projects, a conversion course could help to engage more to work in a productive way on landscape challenges such as climate change, flooding, when the understand landscape processes better.

Mid-career professionals who have decided to change their path, could first do the conversion course, and if they experienced that the discipline suits them, decide to take register for the master programme.
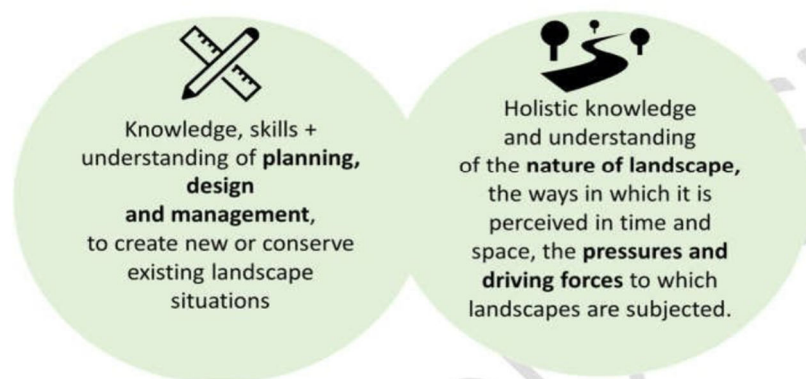
Admission to a conversion master

Figure 13. The main realms of landscape architecture competences (ECLAS, 2010)

Students could be accepted to the conversion master who have basic knowledge one of the two focuses of landscape architecture (Figure 13): related to planning, design and creating or related to the nature of landscape, ecological systems, vegetation, habitats. If they have neither of these students should start at the beginning of a bachelor programme in landscape architecture. Table 15 presents an overview of possible disciplines that might be eligible for admission to a conversion master.

Table 15. Types of bachelor degrees that might be eligible for entering a conversion master in landscape architecture

Discipline	Eligible	Maybe	Comments
Architecture	X		
Urban planning	X		
Interior design	X	X	
Spatial planning	X		
Land art /monumental art		X	Depends on the focus of the portfolio
Geography		X	Depends on the focus of study
Agriculture		X	Depends on the focus of study
Environmental and bio-engineering	X	X	
Horticulture	X	X	
Forestry		X	Depends on the focus of study
Ecology		X	If the focus is more on habitats, landscapes, systems yes
Biology		X	If the focus is more on habitats, landscapes, systems yes if it is focused on species.
Cultural anthropology		X	Depends on the focus of study
Rural Development	X		
Hydrology & Water management		X	Depends on the focus

In all cases an additional check is needed if the applicant masters the basic competences of the realm.

Standard for a process and proof for admittance

Since the conversion is a more condensed and intensive course that a combination of a full bachelor and master programme the admission requires more attention. The admission process can consist of the following steps:

1. Submitting:
   a. a CV + diplomas of degrees (with an explanation of the main competences)
   b. portfolio with projects, plans and work
   c. motivation letter
   d. optional: professional practice period at a planning office
   e. a two-minutes video in which the applicant explains in English a project or plan.
2. Admission interview.
3. Defining the track within the CM and a personal roadmap for competence development.

The number of ECTS for a conversion master

The examples of the existing conversion programmes show that 180 credits for the total programme may be sufficient. This can be divided in 60 ECTS for the first conversion to master the basic competences in landscape architecture that are missing, 90 ECTS for the core programme that is mainly formed by integrated studio work, and 30 ECTS for the final project and thesis.

Specific tracks for different groups of students

There could be one track for the designers and planners (who already have drawing skills, planning skills, etc) and one track for graduates with knowledge of the environmental and ecological aspects of landscape. The proposal for the tracks is based on a selection of the modules that are defined in the EULAND21-project.

Table 16. Selected modules for the two tracks of conversion

Track for architects designers and planners	ECT	Track for graduates of agricultural and environmental programmes.	ECT
EU-LAND21-001-M2 Landscape Basics (Ecology, Soil, Water, Geography) – basic	6	EU-LAND21-001-M1 Landscape Basic Project (including supporting courses) - basic	6
EU-LAND21-B1-M1 Garden & Park design (site design) including planting plan – basic	6	EU-LAND21-A1-M2 Theory and methodology in planning and design; selected theories - basic	6
EU-LAND21-B1-M3 Urban Open Space Design (incl. detailing)- basic	6	EU-LAND21-B1-M1 Garden & Park design (site design) including planting plan - basic	6
EU-LAND21-B3-M2 Landscape management at a site level – basic	6	EU-LAND21-B1-M2 Green infrastructure design (urban or countryside) & planting - intermediate	6
EU-LAND21-D2-M1 Landscape park and vegetation establishment – intermediate	6	EU-LAND21-B1-M3 Urban Open Space Design (incl. detailing)- basic	6
EU-LAND21-D2-M4 Research and vision for Landscape management and vegetation development, combined with a case study and project proposal -advanced	30	EU-LAND21 B2-M1 Theory and Methodology of Planning, lectures - basic	6
		EU-LAND21-D2-M1 Landscape park and vegetation establishment - intermediate	6
		EULAND21-E1-M1 Introduction to GIS and Geodesign - basic	6

A complete overview of all the bachelor programme modules of EU-LAND21 with the full description of the competences are presented in the EU-LAND report (EULand-21, 2018).

The structure of a conversion master for landscape architecture

Conversion masters are mainly meant for a professional orientation in landscape architecture, so there might be less focus on research. Since the students really need to work on the main competences for landscape architecture, the programme should have more integral studio work and less focus on specialisation. The programme should consist of

studio work that relate to the main subjects of landscape architecture: cultural/rural landscapes, urban open space, green infrastructure, parks and gardens. Apart from this, there is a need for free elective time, to acquire some missing competences on a personal level, such as digital skills, representation skills, etcetera.
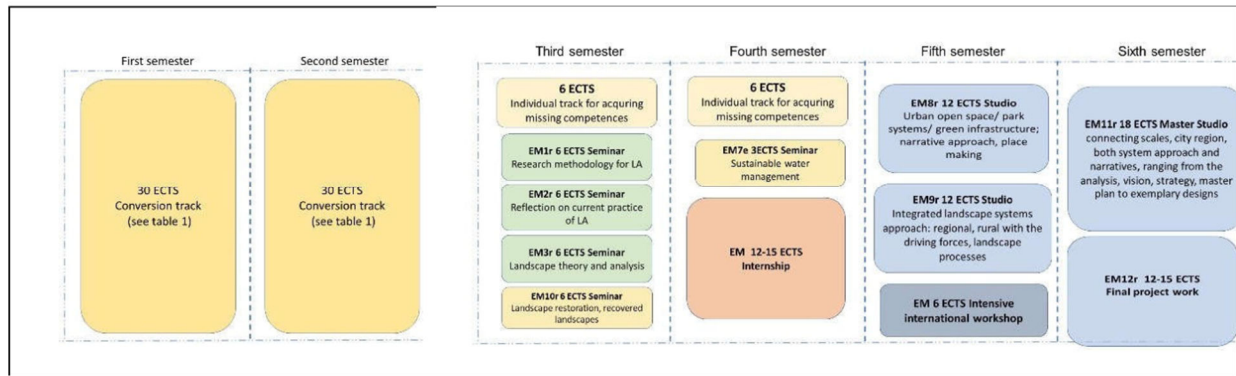

Figure 14. Possible outline of a conversion master programme

6.3 Conclusions on the conversion masters

Conversion masters are especially important in countries where there is a lack of bachelor programmes in landscape architecture or where the number of graduates are not sufficient to meet the demand for qualified landscape architects in a country (such as the case in the United Kingdom). However, both consecutive and conversion master programmes in landscape architecture should be available in all countries because different types of students exist in everywhere.

The main benefits of conversion masters are: (1) to provide an alternative route of entry for people wishing to become landscape architects but who are past the age of starting on a bachelor programme and also have relevant knowledge and experience in a related discipline. (2) To provide an alternative stream of potential entrants to the profession at a time when the numbers of school leaves are falling due to demographic developments. (3) Also providing a legitimate route for people qualified in related disciplines to enter the profession it also makes it harder for non-qualified members of related disciplines to justify working in the field of landscape architecture.

Conversion masters respond to the rising demand of graduates of neighbouring disciplines to specialise in the landscape approach of current societal and ecological challenges.

Conversion masters allow an integration of more diverse perspective on landscape management because of the interdisciplinary teamwork. Conversion masters enable mid-career changes for people who see the relevance of the landscape approach but were not earlier acquainted with the discipline.

Normally two groups of disciplines can be accepted to the conversion masters: those with expertise in planning and design (such as building architects, urban planners, interior designers) and those with expertise in the functioning of natural and cultural landscapes (ecologists, agronomist, foresters). For each of these group the first part of the conversion master will have a specified content. For some other disciplines it depends on the focus of the study programme.

A conversion master should have at least 180 ECTS of study of which 60 ECTS is allocated for a conversion track to acquire the core landscape architecture competences, that could be different for graduates of the design and planning disciplines and the disciplines that relate to ecosystems, vegetation, planting water management. Modules for the conversion track can be taken from the EULAND21 modules.

A conversion master should have a professional orientation and focus on the main competences for landscape architecture.

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PART V GUIDANCE ON IMPLEMENTATION

The criteria for structuring landscape architecture masters and the set of modules can be used for developing new programmes and updating existing programmes and course units. Chapter 7 presents recommendations for developing new or upgrading existing MLA study programmes.

7. Implementation guidelines of the exemplar model into MLA programmes

7.1. Developing new master programmes for LA

Landscape education has different roots in a European context, there are schools embedded in an agricultural background, with technical background, and with artistic focuses. The table shows some examples of European Landscape programmes embedded in different type (profile) of Universities:

Table 17. overview of landscape programmes with various backgrounds

AGRICULTURAL/ LIFE SCIENCES BACKGROUND	TECHNICAL BACKGROUND	ARTISTICAL BACKGROUND
University of Natural Resources and Applied Life Sciences Vienna	Eidgenössische Technische Hochschule Zürich (ETHZ)	Edinburgh College of Art
Warsaw University of Life Sciences	Technische Universität München	The Royal Danish Academy of Fine Arts
Zagreb University, Faculty of Agriculture	Craców University of Technology	Manchester Metropolitan University
Czech University of Life Sciences Prague	Sapienza University in Rome, Faculty of Architecture	The Oslo School of Architecture and Design
Ecole National de Paysage Versailles (ENSP)	Vilnius Gediminas Technical University VILNIUS TECH	Estonian Academy of Arts

All these professional and academic environments are able to offer adequate frames to develop high level master programmes in landscape architecture (both MSc and MA). As far as the LA profession has a strong interdisciplinary and multidisciplinary character, the diversity of the professional environment having a considerable contribution to develop inspirative and innovative LA programmes, by developing landscape architecture master programmes in schools, where:

- bachelor and master (and eventual PhD) level programme is already running. In such situations a diversification of master programmes is also possible, launching both MSc and MA programmes in Landscape Architecture (for instance, the MSc focusing more on planning issues, the MA focusing more on the design aspects of the profession).
- a bachelor programme in LA is already running. In such situations a master programme development can offer beside a mainly management oriented education even skills related to design and research.
- There are no bachelor or master programmes in LA at all, but some environment- or architecture-oriented programmes are already running, offering a number of students owning some (basic) knowledges and skills required for the input in a master of LA.

 The character of the new master programmes (general or specialised) shall define the final curricula of the programme, highlighting the most expected fields of the profession based on the profile and expectation of the school (or government).

From a professional point of view, it is important and expected that a Master's student with any relevant background (e.g. horticulture specialist, architect, forester BA degree) should have the professional knowledge of grading, plant

knowledge, garden art, visual cultural as well as architectural-technical aspects of landscape architecture. All of these are required for a student to obtain a Master's degree. Consequently, it is proposed to introduce additional modules, catch-up courses, which are compulsory for Master students who do not have a BA in Landscape Architecture, in order to fill in the missing knowledge in the basics of the profession. This is also necessary in order to have a better chance of preventing possible training anomalies in the content area.

On the other hand, the emphasis will vary somewhat according to the basic orientation of the university (agricultural/technical/artistic), which may be the strength of a particular training site, and thus a more diversified presentation of certain professional sub-skills will be achieved for the EU as a whole. Consequently, the unique character of the universities is also achieved beside the similar training conditions.

Our developed exemplar model can be adapted into all of the three above mentioned cases. The compulsory modules contain necessary basic knowledge both for MSc and for MA programs, while the elective modules provide the opportunity for some flexibility based on the countries backgrounds or on the universities profiles. Our recommendation is to apply the compulsory modules in all cases, while some of the elective modules could be changed according to the schools' backgrounds.

The percentage/share of the internship and final thesis/project should be kept as it is in the exemplar model in order to provide the harmonisation of programs in Europe. To provide the internalisation for the schools (and in this way for the students) our recommendation is to build the international workshop module into all of the new programs, and establish (or improve) the cooperation with other LA schools in Europe for the easier organisation of these workshops.

7.2. Actualising existing master programme for LA

Landscape architecture education is always in a strong interrelation with the dynamic evolution of ecological and social environment, and has to fulfil the increasing expectations related especially to some **global** environmental problems (warming issues, climate adaptation, decrease of the biodiversity, sweet water management etc), and some social challenges (migration, urbanisation, democratic land use, accessibility and equity in the landscape planning etc.).

The **local** inputs and aspects, of the sites has to be also strongly considered during the curricula improvement of LA programmes, focusing on the development of some new subjects, modules or learning lines in order to empower the preservation of local identity and to use efficiently the local landscape potentials. Accordingly, some special fields has to be included locally in the existing curricula. For instance on "coastal landscape development" in case of countries located in in the seashore; or "mountain landscape preservation" in case of countries with large alpine regions and economy linked to mountainous regions, or there may be specific landscape uses which require specific education, which broaden and enrich the landscape architecture profession as a whole and which contribute to the preservation of the specific character of a place.

Based on the former aspects, the implication of the developed exemplar model without any modification would not be logical. However, we believe that the European LA schools with existing master programmes should make efforts in order to shape their program structure similar to each other and for that our exemplar model could be a good base. The existing programmes should be reviewed, and based on the results an action plan should be developed for the harmonisation process. In this process the first (and the most important) phase is the basic structure of the program and the schedule of the main modules. Among which the internship, the final thesis/project and the international workshop should be the priority to make as easy as possible the exchange of the students. During the following steps the topic and the schedule of the compulsory modules should be (at least) partly harmonised. Similarly to the section 7.1, the elective modules can be offered in a more flexible way.

7.3 Conclusions

InnoLAND presents the following recommendations for developing new or upgrading the existing MLA study programmes:

a. Start the programme structure with overall design, based on the **given framework** for the number of **elective modules** and the size of the **final thesis/project work**.

b. Decide whether an **internship period** should be part of the master or not. if there does not exist a **post graduate traineeship** in the country, there is a greater need to include professional practice into the programme. The need of an internship in the master, also depends on whether an internship is part of the first cycle programme.

c. Set the **main philosophy and aim of the master programme**, based on knowledge and skills that graduates have obtained in the first education cycle. The programme can have a more specific focus or more general covering all aspects of landscape architecture. Where the first cycle programmes provide competences on project work, design, project implementation, the master needs to have a more **strategic aim**, where **system thinking, development of scenarios, proposing alternatives** are relevant.

d. Define the **content** of the **main studios** in the programme. Landscape planning should be a substantial part of the master programme as an important competency in every country. Planning is important, adding complexity when the scale grows. The programme needs to provide studios **for integrating landscape design and planning**, working and **integrating various scales**. A balance between regional, urban and territorial planning should be maintained.

e. **Specialisation** depends on the **market specifics.** In some countries environmental impact assessment and strategic impact scenarios are important. In smaller markets specialist should be quite universal while in bigger ones deeper specialisations may be proposed in MLA programmes, where the profiles of different programmes vary.

f. The programmes should reflect on the **regional and national situation**, adequate literature should be updated in the EM's.

g. There needs to be a **transparent presentation** how the transversal and/or generic **competences are acquired and assessed** in the course of the programme. For this a table needs to be developed, see the example of a matrix in section 5.5.

h. **Graphical representation and modelling** of the master programme is recommended aside of requirements list, where the educational modules **layout with diagrams and interconnections** is a good way of designing the whole structure of the programme.

Glossary for Landscape Education

EQF: European Qualifications Framework for Life Long Learning, with the descriptors of 8 levels of competences: knowledge, skills and Responsibility and autonomy (See: https://ec.europa.eu/ploteus/content/descriptors-page)

CPD: Continuous Professional Development

Design (noun): The design process in which a product (that is, the design) is projected and sometimes also implemented. The design can take the form of a plan of multiple geographic scales ranging from regions to site projects, it can be a regional plan, a strategy, open space design, garden design. Design here also implies the technical design.

Design (verb): The act of projecting future environments or objects, for instance through drawings or other representations. In landscape architecture the verb 'design' means giving four-dimensional form and function to landscapes at multiple geographic scales and the development of landscapes in time.

ECT: European Credit Transfer and Accumulation System or ECTS credits': The credit system for higher education used in the European Higher Education (PQD, Article 3, 1n)

Evidence of formal qualifications: Diplomas, certificates and other evidence issued by an authority in a Member State designated pursuant to legislative, regulatory or administrative provisions of that Member State and certifying successful completion of professional training obtained mainly in the Community. Where the first sentence of this definition does not apply, evidence of formal qualifications referred to in paragraph 3 shall be treated as evidence of formal qualifications (PQD, Article 3, 1c);

Full landscape architecture education: Education that is focused on the discipline of landscape architecture and includes learning activities that aim to acquire the competences listed in Article 5. Fields of knowledge, understanding and skills of this CTF, while allowing for elective subjects. . A full landscape education is completed by graduation on EQF level 7.

Internship: Extended period of supervised residency on the part of the student in a design or planning office or in a nursery or contracting firm to gain practical work experience. Frequently accompanied by the keeping of a diary and/or the preparation of a report.

Landscape: an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors. It …. covers natural, urban and peri-urban areas, whether on land, water or sea. It concerns not just remarkable landscapes but also ordinary or everyday landscapes and degraded areas (European Landscape Convention). Landscape includes amongst other things, rural and peri-urban regions, cultural landscapes, infrastructure in the landscape, green and blue infrastructure, green spaces, nature conservation areas, recreation areas, public and semi-public open space, individual parks, squares, and (historic) gardens.

Landscape architect: The professional who plans, designs and manages natural and built environments, applying aesthetic and scientific principles to address ecological sustainability, quality and health of landscapes, collective memory, heritage and culture, and territorial justice. (Based on IFLA, 2020).

Landscape Architecture Research: The type of research that is carried out by and for the discipline of landscape architecture which can be categorised in (1) Research for design: Research is used to inform or validate the design. In other words, knowledge is acquired in a targeted manner as input for the design (2) Research on design: Plan analyses are used to study and organize operational design. It involves finding specific design concepts, principles, precedents, or types as a foundation for future design. (3) Research through design: A form of research where designing and designs are applied as a research strategy to explore, identify, and map possibilities. (4) Research about design: This primarily concerns understanding

and identifying design processes through the observations, interviews, and other activities of designers. (Nijhuis en De Vries, 2018).

Lifelong Learning: all general education, vocational education and training, non-formal education and informal learning undertaken throughout life, resulting in an improvement in knowledge, skills, and competences, which may include professional ethics;

Professional qualifications: Qualifications attested by evidence of formal qualifications, an attestation of competence referred to in Article 11, point (a) and/or professional experience;(PQD, Article 3, 1b);

Professional traineeship: A period of professional practice carried out under supervision provided it constitutes a condition for access to a regulated profession, and which can take place either during or after completion of an education leading to a diploma (PQD, Article 3, 1j).

Professional Recognition: The way a profession is regulated on a European or a national level according to a set of standards of the recognizing organisation. The effect of this recognition varies, depending on the legal authorization of the recognizing body. On a national level it may result in the right to use the title of landscape architect, the right to work as a landscape architect or to work a specified type of commissions or to be allowed to formally "sign" a plan.

Project implementation: The process of putting a plan or design into effect. This includes preparing technical drawings and specifications, putting the project out to tender, evaluating the bids and selecting a contractor as well as supervising and overseeing the progress of the works on site and finally certifying that they have been satisfactorily completed.

Studio: Form of teaching in which students are involved in the development of design or planning proposals working to a given brief or one which they develop themselves, either individually or in small groups. Supervision, involving consultations and intermediate presentations, takes place on a regular but flexible basis by one or more staff.

Case study: A case study is a well-documented and systematic examination of the process, decision making and outcomes of a project which is undertaken for the purpose of informing future practice, policy, theory, and/or education (Francis, 2001). Apart from the case study, students will carry out other research tasks, and these are categorised under the heading of Self-Study.

Study Trip: Field visit or visits, usually lasting for a number of days. Preparatory research and/ or the writing of a report is usually also involved. [Synonym: "Field Trip"]

Field visit: Visit to a site e.g. the area where the design assignment is located, of a reference project for the studio or for a case study.

Internship: Professional training in a (landscape) office or at a department of a local authority as an apprentice under guidance of an academically schooled practitioner.

Lecture: Form of teaching in which information is imparted, usually verbally and visually, to a large group of students with a minimum of interaction.

Practical work: Teaching form involving practical exercise(s) or undertaken by students, either individually or in groups, involving direct supervision of a group of students in the performance of a pre-defined task or tasks of the use of specific techniques. [e.g. landscape maintenance, planting, small construction works) that also includes a personal evaluation of the work by the student.

Self-study: Teaching mode in which students are given a programme of reading, exercises to work through, or a research task without any specific input from the teacher. This might also include writing a thesis. Depending on the level (basic, intermediate, advanced, master) the self-study is supervised to a certain extent.

Seminar: Small group teaching mode, in which short papers on subject areas defined by the teacher are prepared by individual students or small groups and presented to the whole group. Might be combined with introductory lectures.

Workshop: Short, often intensive, courses with group work on specific (design or planning) tasks which often include plenary presentations of (mid-term) results.

Appendix 1: Analysis of existing master studies

Table. A1. General structure of MLA studies at the EU universities			
No.	**University**	**Country**	**BLA + MLA study years and ECTS**
1	Estonian university of life sciences ttp://www.emu.ee/et/sisseastujale/bakalaureuseope/ https://www.emu.ee/en/admissions/landscape-architecture/	Estonia	3 (180) + 2 (120) = 5 (300)
2	Krakow University of Agriculture https://oferta.urk.edu.pl/index/site/3359	Poland	3,5 (210) + 2 (90) = 5,5 (300)
3	MATE University in Budapest https://tajk.szie.hu/english-page/faculty-landscape-architecture	Hungary	3 (180) + 2 (120) = 5 (300)
4	The Dutch School of landscape www.dsl.nl http://www.vhluniversity.com/vhl-studies/bachelor/garden-and-landscape-architecture.aspx https://www.tudelft.nl/en/education/programmes/masters/architecture-urbanism-and-building-sciences/msc-architecture-urbanism-and-building-sciences/master-tracks/landscape-architecture/ https://www.bouwkunst.ahk.nl/en/study-programmes/master-in-landscape-architecture/ https://www.wur.nl/en/Education-Programmes/master/MSc-programmes/MSc-Landscape-Architecture-and-Planning.htm	The Netherlands	VHL: 4 years BSc. TU Delft: MSc. LA 2 (120) AAA: 4 years MLA (240, including 2 years of practice) Wageningen: 3 (180) + 2 (120) MSc. LA
5	Krakow University of Technology http://iro.pk.edu.pl/masters-degree/	Poland	3,5 (210) + 1,5 (90) = 5 (300)
6	Wroclaw University of environmental and Life Sciences https://www.upwr.edu.pl/faculties/10596/institute_of_landscape_architecture.html	Poland	3,5 (210) + 1,5 (90) = 5 (300)
7	Swedish University of Agriculture Sciences SLU https://www.slu.se/en/education/programmes-courses/masters-programmes/landscape-architecture/	Sweden	3 (180) + 2 (120) = 5 (300)
8	Aalto University https://www.aalto.fi/study-options/masters-programme-in-urban-studies-and-planning-msc-in-landscape-architecture	Finland	3 (180) + 2 (120) = 5 (300)
9	Latvian University of Life Sciences and Technology http://www.llu.lv/en/landscape_architecture	Latvia	3,5 (210) + 2 (120) = 5,5 (330)
10	Weihenstephan University of Applied Sciences https://www.hswt.de/en/studies/degree-programmes/mla.html	Germany	3,5 (210) + 1,5 (90) = 5 (300)
11	ETSAB University Barcelona https://etsab.upc.edu/en/studies/mlandarch	Spain	3 (180) + 2 (120) = 5 (300)

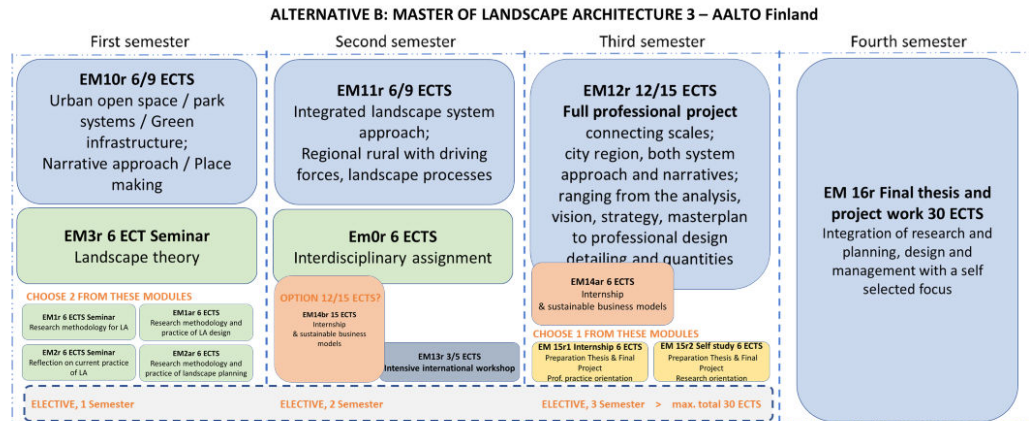# Appendix 2: Survey on evaluation by staff and students of MLAs

To gain a better insight in how staff and students assess the structure and content of landscape architecture master programmes a survey was carried out with the following questions:

1. In your opinion, is 120 ECTS for an MLA (300 EC for BLA + MLA) enough for a full academic education for landscape architect?
2. Is the proportion of theory (lectures, seminars) and practice-based (studio, field trip, study tour, practice, and similar) subjects at your institution's master programme (indicate here the T-P share) adequate or should be changed?
3. Should students be offered elective (optional, free to select) courses on MLA studies? if YES, what amount of ECTS?
4. Should internship be included in MLA studies? If YES, what amount of ECTS or months?
5. Should graduates of the other related study programmes be admitted to Master studies in LA? If yes, what amount of additional training (ECTS) should they go through before MLA studies?
6. What proof is appropriate for admission to MLA studies?

Fifty-three persons answered this survey; the main conclusions are in § 1.3 on p. 9.

Appendix 3: Alternative structures for LA Masters

Testing alternative MLA structure models with InnoLAND project partners (a - d), participants of the Multiplier Event in Brussels BE (e - h), and with VILNIUS TECH bachelor students (i - j).

ALTERNATIVE B: MASTER OF LANDSCAPE ARCHITECTURE 3 – AALTO Finland

alternative a

ALTERNATIVE MLA 2 - MATE Hungary

alternative b

ALTERNATIVE MLA 4 – UEVORA Portugal
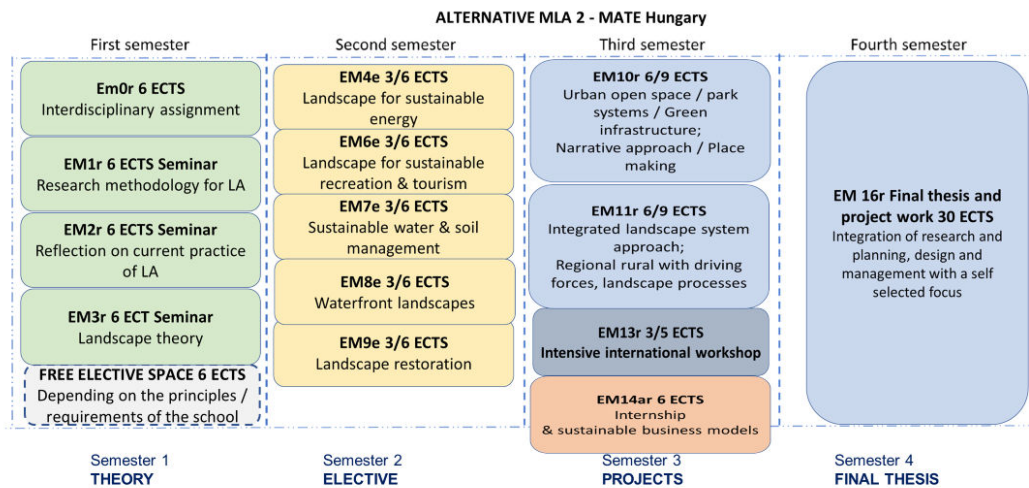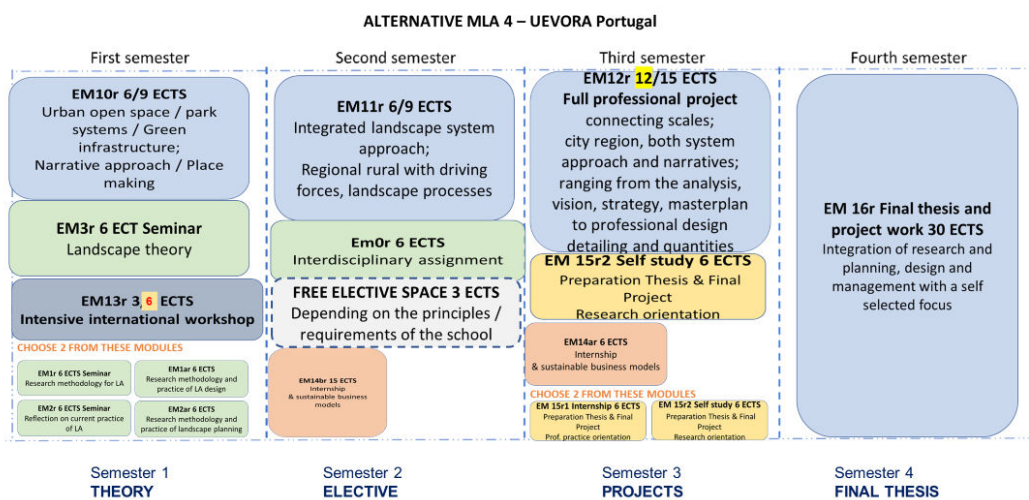
alternative c

MLA ALTERNATIVE 1: TU WIEN
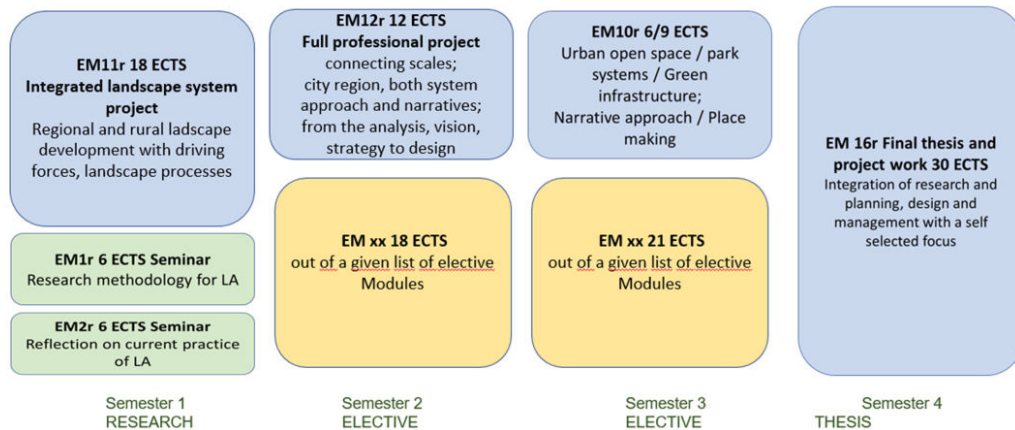
alternative d
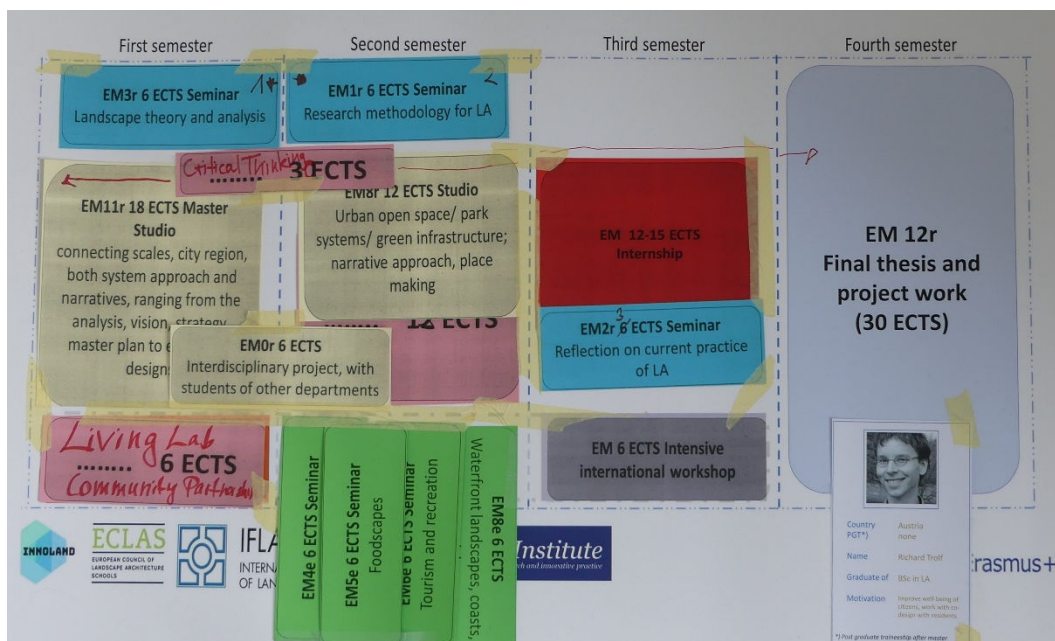
alternative e

alternative f

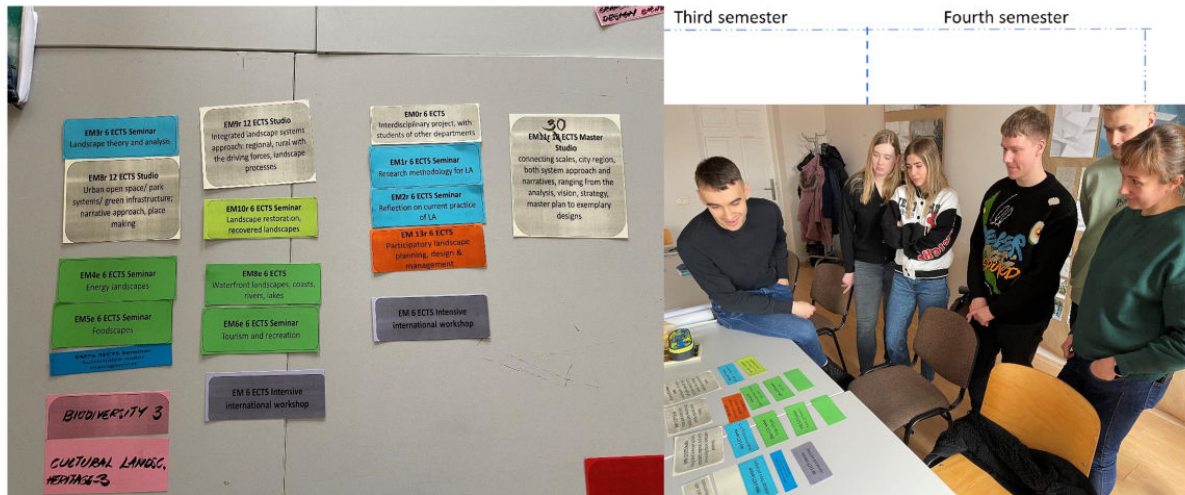*InnoLAND Model of an Exemplar Master Study Programme in Landscape Architecture* 61
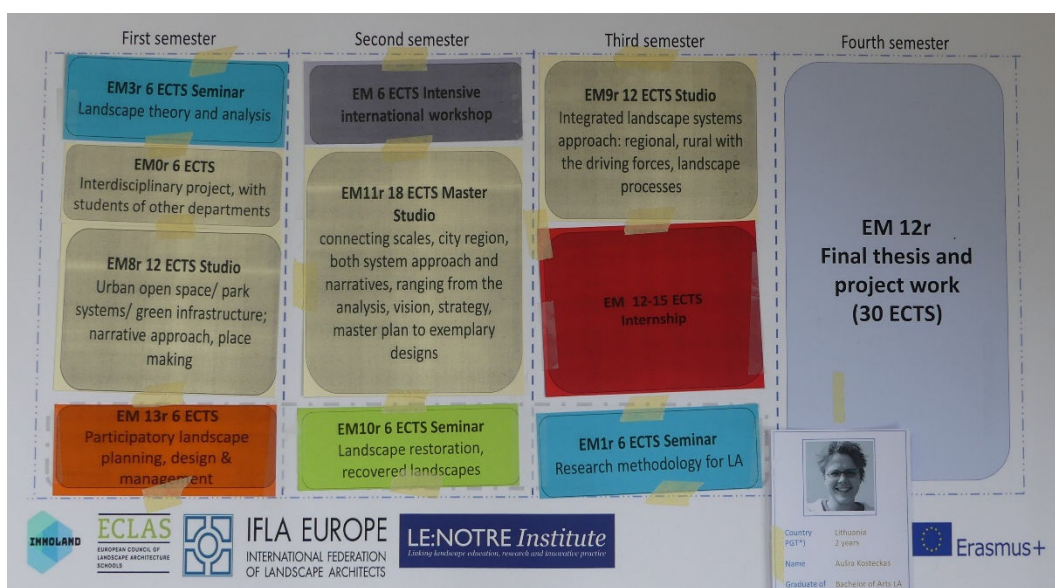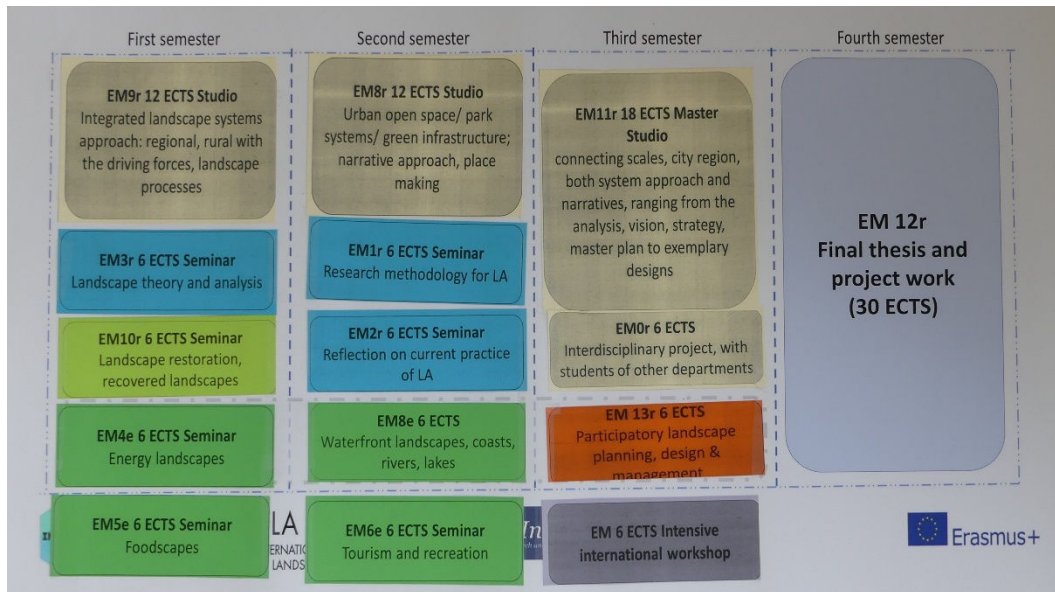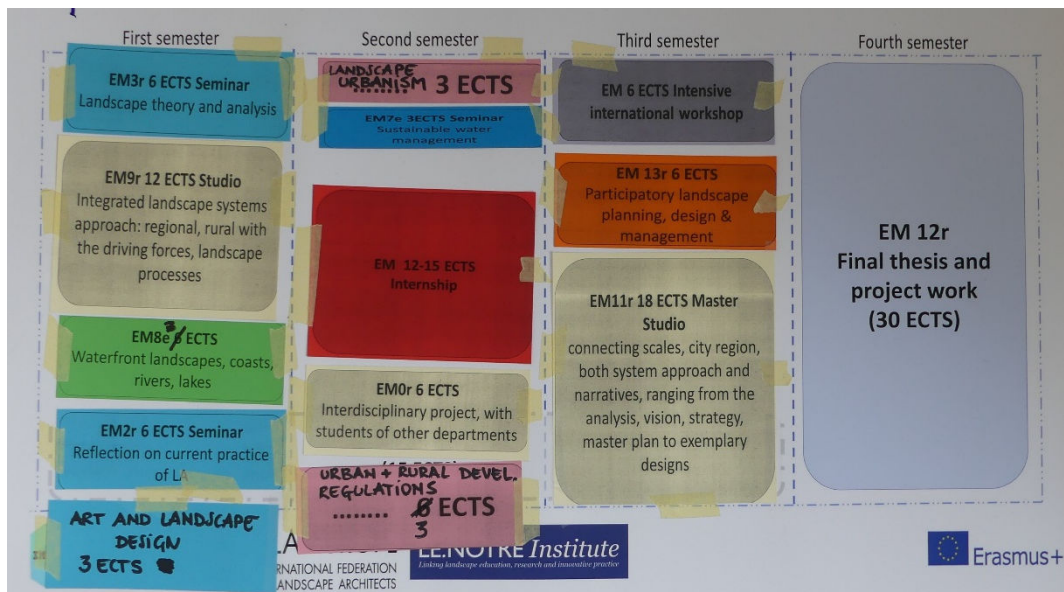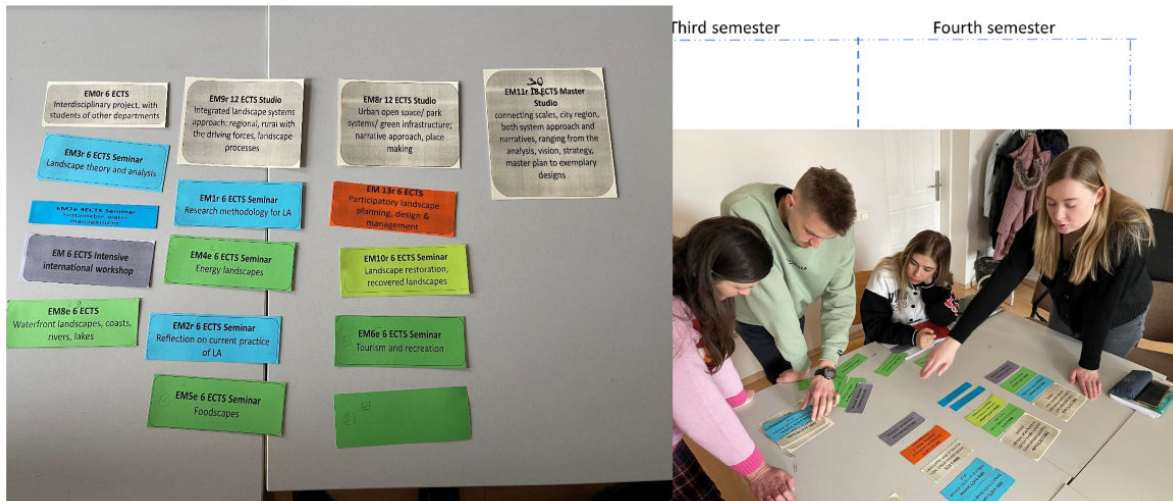
alternative g

alternative h

Testing with VILNIUS TECH bachelor students in Landscape Architecture

alternative i

Testing with VILNIUS TECH bachelor students in Landscape Architecture

alternative j

Appendix 4: Education Modules for LA Masters

There is a separate file for this, will later be integrated.