



**TASK 2.1: Defining pathways objectives, learning outcomes, and career perspective**

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Abstract	<p>This deliverable consists of two parts. Part one focuses on (i) an analysis of the current practices and curricula of European academic programs in Sustainable Tourism, Biodiversity, Strategic Planning and Hospitality Management; (ii) an analysis of internationally recognized recommendations dealing with the needed levels of knowledge and skills of the emerging areas of Sustainable Tourism dealing with climate change and resilience measures especially for coastal contexts; (iii) an analysis and assessment of the environmental and management indicators which will be gathered in the Observatories on Sustainable Tourism and Environmental Protection and considered of utmost importance in the context evaluation and research; this includes a discussion of the quality of the indicators including the technical needs to be developed. Part two of this report is a definition of the</p>
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	pathway mission, objectives, and learning outcomes for 2 masters degrees developed respectively in Costa Rica (P6), and Colombia (P3) and the specific activities/ courses that will enrich existing curricula in Colombia (P4), West Indies (P7) and Costa Rica (P5).
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## LIST OF ABBREVIATIONS

AC	Activation Committee
DMO	Destination Management Organization
EAFIT	Escuela de Administración, Finanzas e Instituto Tecnológico
EU	European Union
GDP	Gross domestic product
HEIs	Higher education institutions
PC	Partner countries
SDG	Sustainable Development Goals
STMM	Sustainable Tourism Management and Monitoring
TDDT	Tourism and Sustainable Development of Territories
UCI	Asociación Universidad para la Cooperación Internacional
UN	United Nations
UNA	Universidad Nacional de Costa Rica
UNICA	University of Cagliari
UNIMAGDALENA	Universidad del Magdalena
UPVM	Université Paul Valéry Montpellier
UWI-CERMES	University of West Indies- Centre for Resource Management and Environmental Studies
WTTC	World Travel and Tourism Council

## **PART 1**

This first section focuses on:

- I. An analysis of the current practices and curricula of European academic programs in Sustainable Tourism, Biodiversity, Strategic Planning and Hospitality Management;
- II. An analysis of internationally recognized recommendations dealing with the needed levels of knowledge and skills of the emerging areas of Sustainable Tourism dealing with climate change and resilience measures especially for coastal contexts; and
- III. An analysis and assessment of the environmental and management indicators which will be gathered in the Observatories on Sustainable Tourism and Environmental Protection and considered of utmost importance in the context evaluation and research; this includes a discussion of the quality of the indicators including the technical needs to be developed.

### **1. EUROPEAN ACADEMIC PROGRAMS IN SUSTAINABLE TOURISM**

Two European STOREM partners offer academic programs in sustainable tourism: University of Cagliari (UNICA), Italy, and University Paul-Valéry Montpellier (UPVM), France.

UNICA offers a new two-year master's degree in *Sustainable Tourism Management and Monitoring* which seeks to prepare professional managers in monitoring, acquiring, processing and interpreting tourist data to advise and support decision-making both in the public and private sectors, from a sustainable development perspective. While at UPVM, a two-year master's degree in *Tourism and Territorial Sustainable Development* which emphasises valuing cultural and natural heritage and sustainable development of territories is offered. The following sections detail these programs.

#### **1.1 Italy**

In the University of Cagliari, as well as in the Autonomous Region of Sardinia, there are no master's degree programs in Economic Sciences for the Environment and Culture. At the country level (Italy), in the 2016-2017 academic year, there were eight Master Degrees of the same class, two of which were specifically dedicated to tourism (Milan-Bicocca and Rome-La Sapienza).

Only two of the eight Master Degrees of the same class are similar to the Sustainable Tourism Management and Monitoring (STMM) program. However, STMM differs from Milano Bicocca in "Economics of Tourism" and from Rome-La Sapienza in "Tourism and Resource Management Environmental", as it seeks to train professionals and in particular to create experts in the field of sustainable tourism.

The specificities of the Master Degree in STMM are linked above all to the focus on the training of professionals who can operate in the public or private sphere in the field

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of sustainable tourism development. With its strong international vocation, a significant part of the training is provided in English.

STMM started from a careful evaluation of the training demand carried out in different contexts. In a first phase the survey was conducted at Department level (Department of Economic and Business Sciences) through its Director, subsequently by an Activation Committee (AC) delegated by the Department.

In particular, the AC proceeded to investigate further through various channels. First, UNICA wanted to consider international trends regarding higher education in tourism. The most recurrent themes were those of sustainability, big data management and new technologies developed among others by: the University of Illes Balears in the Master of Economics of Tourism: Monitoring and Evaluation; the University of New Zealand in the Master of International Development (MIntDev); University of Surrey in the Master degree in International Tourism Management. At a national level, observing the panorama of master's degrees in tourism, it was found that the training offer mainly focuses on the sustainability of destinations and management, but little exists on new technologies and big-data management. In particular, the issue of monitoring is completely missing. Unfortunately, no sector studies were found that gave specific information about it.

In support of the theme of sustainability, the international level oriented towards sustainable development was considered. In particular, the fact that among the 17 Sustainable Development Goals of the UN 2030 Agenda for Sustainable Development, they refer explicitly to sustainable tourism in its SDG 8.9 which gives a precise indication of how this is not only one of the central elements for a sustainable growth of the various realities of the world, but also how sustainable tourism is clearly inserted within the system of international standards universally recognized by the States (consultation in July 2016).

In support of the specific theme of monitoring, in addition to the strong need mentioned above to include sustainable tourism within the system of international standards, the strong need emerged in the context of the "European Commission Project ETIS - Visit South Sardinia" to provide the territory (companies and institutions) with experts for monitoring and reading tourist data.

### **1.1.1 Sustainable Tourism Management and Monitoring (STMM), UNICA**

STMM prepares professional managers in monitoring, acquiring, processing and interpreting tourist data to advise and support decision-making processes, both in the public and private sectors, from the point of view of sustainable development. Moreover, they will be able to carry out managing and directing activities in the following business areas: monitoring and analysing tourist data; managing sustainable tourism projects and processes; managing sustainable economic development and related policies.

#### First year

- 1st semester "Understanding tourism and sustainability as socio-cultural and scientific categories"

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The module develops the knowledge necessary to understand sustainability in tourism, considering the main actors and the stakeholders of socio-economic international, national and local systems. The Program will be entirely in English starting from the second year to offer the language knowledge functional to its international perspective.

- 2nd semester “Developing plans, policies and projects”

The module is based on courses which entail socio-cultural and scientific know-how to analyse the issues connected to the management of sustainable tourism, with reference to policies, business plans and investment projects.

### Second year

- 1st semester “Monitoring sustainable tourism”

The module offers specialised knowledge which constitutes the core of the whole course. Such knowledge concerns: identifying and monitoring the leading indicators of sustainable tourism; the information systems supporting decisions; and the computerised management of regional data.

- 2nd semester “Final module”

The module provides a comprehensive overview of the international legal framework regulating environmental protection and policies. The knowledge developed during our Master course can be further deepened through optional courses and traineeship activities. The educational requirements entail a final comprehensive exam.

### **Careers**

The STMM graduate is a manager promoting sustainable development in national and international institutions and in public and/or private organisations such as: enterprises and business networks; tourist associations; tour operators and other enterprises in the sector of tourist services; executive bodies of ports and airports; public and private partnerships to supply services for local economic and social development; protected areas, natural parks and artistic and cultural heritage sites; non-governmental organisations; Destination Management Organization (DMO); Convention Bureaus; local, national and international institutions; associations.

### **Program structure**

The Program is based on lecture-based classes, practical exercises, workshops and seminars, in support of personal autonomous study.

### **International exchange programs**

STMM entails study experiences and traineeships abroad through the Erasmus, Globus, Erasmus-Placement and Globus-Placement programs.

#### **1.1.2 Focus on biodiversity**

Turning now to the analysis of the 3 years' bachelor's degree (L32 - Class of degrees in sciences and technologies for environment and nature) offered in the field of

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biodiversity and which is relevant to the STOREM project, the following offer is highlighted:

**Conservation and recovery of natural goods:** University of Bari

**Management of marine and coastal resources:** University of Bari

**Environmental sciences:** University of Bologna, Genova, Napoli Federico II, Palermo, Roma La Sapienza, Sassari, Trieste Urbino, Venezia, Toscana

**Environmental and natural sciences:** University of Catania, Siena, Molise, Insubria, Sassari, Pisa

**Environmental sciences and territory management:** University of Eastern Piemonte

**Natural sciences:** University of Calabria, Bari, Bologna, Cagliari, Firenze, Genova, Messina, Milano, Modena e Reggio Emilia, Palermo, Roma La Sapienza, Torino

Let's have a closer look at the Bachelor Degree offered by UNICA in Natural Sciences (3 years) (<http://corsi.unica.it/scienzenaturali/>).

**Characteristics:** describing the biotic and abiotic components and understanding the processes underlying their interaction, their historical character and anthropic influence.

**Specific objective:** acquiring a systemic culture of the environment, based on solid scientific foundations, with high interdisciplinary skills and analytical skills, combined with good observation skills and practice in the area.

**Skills associated with the function:** Detection, classification, analysis, restoration and conservation skills of abiotic and biotic components of natural, aquatic and terrestrial ecosystems; Competence in the management of parks and nature reserves, scientific museums and educational centres; Ability to analyse and monitor environmental systems and processes, in the perspective of sustainability and prevention for the purpose of promoting environmental quality, protection and recovery of environmental and cultural assets; Organizational skills for naturalistic tourism, landscape planning and conservation, environmental education and naturalistic dissemination.

**Career opportunities:** Public bodies, laboratories and public and private research centres, companies and professional offices in various fields.

The panorama of Master Degrees (2 years) related to biodiversity (corresponding to LM60 - Class of magistral degrees in Nature Sciences) can be summarised as follows:

**Analysis and management of natural environments:** University of Milan

**Biodiversity and conservation of nature:** University of Siena

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**Biodiversity and natural systems:** University of Calabria

**Environmental biology:** University of Trieste

**Communication and education for natural sciences:** University of Tuscia, Siena, Roma La Sapienza

**Nature sciences:** University of Bari, Padova, Palermo, Pavia, Torino, Firenze

**Marine sciences:** University of Roma La Sapienza

### 1.1.3 Focus on preservation and management of natural resources and environment

Having a closer look at *Preservation and management of natural resources and environment* (2 years) [https://www.unica.it/unica/en/crs\\_60\\_74.page](https://www.unica.it/unica/en/crs_60_74.page)

**Characteristics:** The Course provides the skills for a cultural preparation at a higher level in the systemic analysis of the natural environment in all its biotic and abiotic components and in their interactions, also considered in their historical-evolutionary dimension.

**Specific objective:** Particular attention is paid to the study of the peculiarities of the territory, to animal and plant species, to coastal areas and to the effects of human activities on ecosystems. The specific objective of the Degree Course is to equip graduates with the tools to work with broad autonomy and to take responsibility for projects and structures. This objective is achieved by providing knowledge of both the national and EU legislative elements in the naturalistic and environmental field, and of the elements of business economics and accounting.

**Skills associated with the function:** awareness of the need to safeguard biodiversity and the functioning of ecosystems, methods and techniques of analysis, control and monitoring of environments also in relation to the impacts generated by human activities.

**Career opportunities:** Public bodies, laboratories and public and private research centres, companies and professional offices in various fields.

PhD course (3 years): Earth and Environmental Sciences and Technologies, UNICA <http://dottorati.unica.it/stta/phd-courses/?lang=en>

**Characteristics :** the cultural core of the PhD training project is represented by a systemic, integrated, interdisciplinary and multi-level approach to the study of the territory as a physical-natural environment and the technologies necessary for its conservation/remediation.

**Topics:** management of physical and biotic environment, geology, ecosystems and vegetal habitats, solid and liquid wastes, contaminated environmental matrices,

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knowledge of the territory, protection and promotion of the environment, conservation and valorisation of the environment as a strategic aspect for the development of sustainable tourism.

The effects of such problems (coastal erosion, hydrogeological imbalances, desertification, pollution, coastal area salinisation, eutrophication of the basins, loss of biodiversity, contaminated sites, solid and liquid residues to be managed) result in heavy environmental, and thus socio-economic, imbalances. All these aspects emphasize a strong need for conservation/remediation of the territory, its proper use and rational exploitation of resources.

The PhD course, therefore, has a strong relation with the local territory, while pursuing also research topics of general and basic interest.

## **1.2 France**

There are several academic programs in France in Tourism, and some more specifically in Sustainable Tourism. There are 79 Master's degrees in tourism in 18 public universities and about 35 private schools:

- Public: cheaper (almost free of charge: 300 euros/year) and better level (2 years; 500 to 650h, until 1000h). Territorial organization or marketing/management.
- Private: from 3500 to 6500 euros; usually 150h to 300h up to 600h maximum for a 2 years diploma. It's often an only one-year diploma, and often only in marketing/management.

### **Main tourism masters in French Universities**

- Institut supérieur d'économie et de management, Université Nice - Sophia Antipolis Nice
- Institut d'administration des entreprises, Université de La Rochelle La Rochelle
- Pôle universitaire Pierre-Jakez Hélias, Université de Bretagne Occidentale Quimper
- Institut Supérieur du Tourisme, de l'Hôtellerie et de l'Alimentation - Site de Toulouse, Université Toulouse - Jean Jaurès Toulouse
- + Institut Supérieur du Tourisme, de l'Hôtellerie et de l'Alimentation (ISTHIA) - Site de Foix, Université Toulouse - Jean Jaurès Foix
- UFR sciences des territoires et de la communication, Université Bordeaux Montaigne Pessac
- Antenne de Béziers, Université Paul Valéry Montpellier 3 Béziers
- UFR ESTHUA tourisme et culture - site d'Angers, Université d'Angers Angers  
+ UFR ESTHUA tourisme et culture - antenne site de Saumur, Université d'Angers Saumur  
+ Institut supérieur du tourisme, Université d'Angers Les Sables-d'Olonne
- Université Catholique de l'Ouest Bretagne sud, Facultés libres de l'Ouest - UCO Angers Arradon
- Faculté des Lettres et Sciences Humaines, Institut catholique de Lille, Lille

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- Centre de gestion universitaire Saint-Louis, Université du Littoral Côte d'Opale Boulogne-sur-Mer
- Université de Versailles Saint-Quentin-en-Yvelines
- Collège Sciences sociales et humanités (SSH) - Campus de Pau, Université de Pau et des Pays de l'Adour Pau
- UFR des lettres et sciences humaines, Université de Perpignan Via Domitia Perpignan
- UFR Temps et Territoires, Université Lumière - Lyon 2 Bron
- Institut d'administration des entreprises Savoie Mont-Blanc (Chambéry - Jacob Bellecombette), Université Savoie Mont Blanc Chambéry
- Institut de recherche et d'études supérieures de tourisme, Université Panthéon-Sorbonne Paris
- UFR de lettres et sciences humaines, Université Le Havre Normandie Le Havre
- Institut francilien d'ingénierie des services, Université Paris-Est Marne-La-Vallée Serris
- UFR de lettres, langues et sciences humaines, Université de Toulon La Garde
- Université Grenoble Alpes, Grenoble
- Université de Corse, Corte

Table 1 Educational approaches in sustainable tourism master's programs at some French universities

University	Master	% professionalisation (ECTS)	% methods (ECTS)	% theory (ECTS)	Internships	Number of class hours	% tourism (ECTS)	Comments
<b>U. Paul Valéry Montpellier 3</b>	Tourisme et Développement Durable des Territoires	47%	31%	22%	3 + 6 months	720 h	82%	
<b>U. Pau et pays de l'Adour</b>	Loisirs, tourisme et développement territorial	32%	29%	39%	3 + 5 months	1060 h	75%	Bilingual (with U. Zaragoza, Spain)
<b>Université de Versailles Saint-Quentin-en-Yvelines</b>	Ingénierie de projets touristiques, et environnement (IPTE)	55%	26%	19%	6 months	412h	89%	Only one year (M2)
<b>Université de Toulon</b>	Management du Tourisme Durable	33%	46%	21%	6 months	810h	91%	
<b>Université Bordeaux Montaigne</b>	Gestion Territoriale du Développement Durable	37%	28%	35%	4 + 6 months	650h	40%	Territorial main topic, not specifically tourism

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### **1.2.1 Tourism and Sustainable Development of Territories (TDDT), UPVM**

The aim of this two years Master course is to train efficient actors in the renovation of tourism. Our graduates obtain starting qualifications for independent, governmental and managerial professions and functions at management and consultancy levels with private, public or non-profit organizations or institutions in the tourism sector.

The Masters of Science in Tourism Development (TDDT) is mainly an approach to consider and apply the principles of valorisation of cultural and natural heritage and sustainable development of the territories at all scales, both in defining strategic plans, managing ongoing programs or preparation of new projects in enterprises or communities invested in soft tourism practice. This training program mixes theory classes, practical classes and workshops. The TDDT master supports:

- Organization and development of territories
- Environmental, social and cultural management
- Heritage valorisation

Insisting on an approach thoughtful of the environmental, cultural and social dimensions of the tourist practice, TDDT focuses on the processes of cooperation, co-development, solidarity on development, "fair" tourism, etc., to the North and South.



Co-funded by the  
Erasmus+ Programme  
of the European Union



**Master 1:** 280h de cours + 3 mois de stage

**Semestre 1**

- Dynamiques des territoires et des sociétés 24h 5ECTS
- Territoires et tourisme 36h 6 ECTS
- Professionnalisation et animation de projets 36h 5 ECTS
- Méthodologie du projet de territoire : enquête, diagnostic, prospective, 36h, 6 ECTS
  - Interfaces et approches participatives (cartographie ; e-tourisme) 36h, 5 ECTS
- Langue Vivante 20-20h, 3 ECTS



**Semestre 2**

- Atelier tutoré 1 : diagnostic territorial 90h 10 ECTS
- Stage encadré en entreprise (14 semaines) 20 ECTS

**Master 2:** 308h de cours + 5-6 mois de stage

**Semestre 1**

- Tourisme et développement durable des territoires : concepts, logiques et représentations, 78h, 8 ECTS
- Stratégies entrepreneuriales et techniques de promotion d'un projet touristique 78h, 6 ECTS
- Communication, valorisation et ouverture à l'international 42h, 6 ECTS
- Langue Vivante 20-30h, 3 ECTS
- Atelier tutoré 2 : aménagement opérationnel et conduite de projet, 90h, 7 ECTS



**Semestre 2**

- Stage encadré (20 à 24 semaines)

Conférences, travail de terrain (ateliers) en sus : environ 150h/an

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**Public**

En formation initiale ou continue, sur transfert ou validation d'acquis professionnels (avec avis - voir site du SUFCO [www.sufco.fr](http://www.sufco.fr))

- **Master 1 TDDT**: titulaires d'une licence en géographie, aménagement, environnement, tourisme, sociologie...
- **Master 2 TDDT**: maîtrise ou master 1 en géographie, aménagement, environnement, tourisme, etc...

Personnel de validation d'acquis professionnels <http://www.univ-montp3.fr/formation-tourisme-parcours-308>

**Lieux**

Université Paul Valéry Montpellier 3  
Université Paul Valéry Montpellier 3 - Centre Du Guesclin - 3 allée du Doyen Néron - BP 310 - 34500 BEZIERS

**Enseignement**

- M1 : 27h de cours + 3 mois de stage
- M2 : 308h de cours + 5-6 mois de stage

Possibilité d'aménagements pédagogiques en formation continue

**Formation continue**

La formation continue est un axe majeur de notre politique de développement. Nous avons d'ailleurs également créé le Diplôme d'Université « Technique de promotion et de gestion en tourisme durable » (DGD) <http://www.univ-montp3.fr/formation/technique-de-promotion-et-gestion-en-tourisme-durable>

Un autre programme diplôme d'université stratégique de promotion d'un projet touristique. Pour toute information et pour établir le dossier de formation continue (CF, Congé formation professionnelle, plan de formation, DIF...) Tél : 04 67 31 88 23

Sous réserve d'approbation du dossier et de recrutement, la région Languedoc-Roussillon accorde un soutien financier à un nombre limité de demandeurs d'emploi par l'intermédiaire de l'organisme SUFCO - Université Paul-Valéry pour la mise en œuvre du master 2 TDDT.

UNIVERSITÉ PAUL VALÉRY MONTPELLIER 3

Occitanie

ARTDev

Actualisé en février 2020

<http://bescois.univ-montp3.fr/formation/technique-de-promotion-et-gestion-en-tourisme-durable>



Le master TDDT a une triple ambition :

- Apporter sa contribution à l'animation des territoires locaux ou régionaux en quête d'activités nouvelles, afin de maintenir leurs populations, accroître leurs richesses et améliorer leurs niveaux de vie, au regard de la capacité de charge de chaque environnement spécifique.
- Participer au renouvellement des équipements et activités touristiques dans une optique de meilleur rapport «qualité-prix», au moyen d'une démarche réflexive (labellisation et autres processus périodiques d'évaluation).
- Chapper aux modèles de développement exclusivement bâtis sur une logique de filière, aux stéréotypes et normalisations incapables de prendre sérieusement en compte les hommes -habitants comme touristes-, leurs usages et leurs territoires.



Le master TDDT a vocation à préparer à la fonction de « manager » en France ou à l'étranger : gérant d'entreprise touristique, chef d'un service de collectivité territoriale ou d'un office du tourisme. La formation vise donc quatre orientations professionnelles :

1. la requalification de structures locales d'animation à vocation de tourisme et de loisir
2. la production de parcours de découverte naturaliste, sportive ou culturelle (y compris la dégustation gastronomique et œnologique) dans le cadre d'offices du tourisme ou de services publics intercommunaux
3. la gestion de résidences hôtelières, de villages de vacances ou d'écologie
4. l'événementiel et la publication de médias spécialisés dans la promotion des territoires, le développement du tourisme, des activités sportives de pleine nature et des loisirs.



Exemples de débouchés professionnels des nos anciens étudiants

- Directeur/directrice d'office de tourisme
- Chargé(e) d'ingénierie sociale (aménagement local et régional) : CRT, CDT, ...
- Consultant secteur sport, loisir, tourisme (bureaux d'études)
- Directeur/directrice de centres de vacances et de loisirs, de résidences de tourisme
- Responsable/Responsable de la promotion, des sports et des loisirs (tourisme sportif)
- Chargé(e) d'ingénierie sociale (responsable de structure, France ou l'étranger)
- Chef de projet régionale (tourisme durable, institutions, tourisme sportif, événementiel, développement)

Les intervenants professionnels (la moitié de l'horaire annuel) travaillent dans ces secteurs d'emploi. Les stages (y compris en France et à l'étranger).

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Personnel de validation d'acquis professionnels <http://www.univ-montp3.fr/formation-tourisme-parcours-308>

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La formation continue est un axe majeur de notre politique de développement. Nous avons d'ailleurs également créé le Diplôme d'Université « Technique de promotion et de gestion en tourisme durable » (DGD) <http://www.univ-montp3.fr/formation/technique-de-promotion-et-gestion-en-tourisme-durable>

Un autre programme diplôme d'université stratégique de promotion d'un projet touristique. Pour toute information et pour établir le dossier de formation continue (CF, Congé formation professionnelle, plan de formation, DIF...) Tél : 04 67 31 88 23

Sous réserve d'approbation du dossier et de recrutement, la région Languedoc-Roussillon accorde un soutien financier à un nombre limité de demandeurs d'emploi par l'intermédiaire de l'organisme SUFCO - Université Paul-Valéry pour la mise en œuvre du master 2 TDDT.

UNIVERSITÉ PAUL VALÉRY MONTPELLIER 3

Occitanie

ARTDev

Actualisé en février 2020

<http://bescois.univ-montp3.fr/formation/technique-de-promotion-et-gestion-en-tourisme-durable>

Figure 1: The promotional flyers of the professional master Tourism and sustainable development of territories in Paul Valéry Montpellier 3

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Students in the first year have to do an internship of at least 3 months and students in the second year have to do an internship of at least 5/6 months. At the end of both years, students have to write a master's thesis and do a master's thesis defence.

This master's promotes sustainable values in our training strategies and in professional vocations of students:

- To bring its contribution in animating local and regional territories searching for new activities, in order to maintain their population, to increase their wealth and improve their quality of life, in regards with the capacity of each specific environment.
- To participate in the renewal of equipment, infrastructures and touristic activities in order to improve the price-quality ratio in a reflexive approach (labelling practices and other evaluation processes).
- To escape the development of models on a sector-based logic, to escape stereotypes and normalized models unable to take the relationships between inhabitants and tourists, uses and territories.

The master's provides knowledge and competences to students allowing them:

- To master tools and methods of research and expertise in geography and planning (data processing, field work, qualitative and quantitative analyses, cartography, e-tourism)
- To allow students to get acquainted with tourism and leisure organization at different scales and with the latest data available.
- To understand hospitality and the behaviors of those who are coming and those who are receiving in the diversity of touristic activities
- To observe touristic practices referring to the concept of sustainable development, in order to apply its funding principles in the approach of enterprises and collectives,
- To support decision-makers in their wish of valorisation of their natural and cultural heritage and in their planning choices
- To position oneself on the market with new marketing tools linked to online communication
- To develop one's capacity to work in the international labor market
- To train stakeholders responsible of touristic animation, at the scale of project territories
- To master one or several languages, including English
- To be able to synthesize and reconstitute both written and oral
- To use technical analysis tools (cartography, communication, e-tourism)
- To master the legal rules of planning

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Co-funded by the  
Erasmus+ Programme  
of the European Union



- To master security rules
- To know how to conceive promotional material, information and communication supports

### **1.2.2 Relationships and partnerships with other Universities and research programs**

Through partnerships and teachers' interventions, this master collaborates with other Universities, such as University of Nice, Perpignan, Versailles-St-Quentin, Caen and Montaigne Bordeaux 3.

Even if it's main purpose is to train professionals able to settle in the professional world, this master is tightly linked to research, especially with the research center ART-Dev (in France, all the masters need to be inserted in a research team). Thus, it's possible to promote the best student for a PhilD thesis (8 for the last decade).

UMR 5281 ART-Dev is a mixed unit of research that associates geographers, sociologists and economists from different institutions: Paul Valéry Montpellier 3 University (main leader); CNRS (Centre National de la Recherche Scientifique); Perpignan Via Domitia University; University of Montpellier; CIRAD (Centre de Coopération Internationale de Recherche Agronomique pour le Développement). With 150 members (including 64 PhilD students), 3 research axis (and especially "*Interfaces, ancrages et circulation dans la globalisation*" where this action is inserted). Interdisciplinary research team, ART-dev focus on the interfaces between the dynamics of territories and developments. It based on the observation that globalization is involved in reconfiguring complex territorial communities at different scales, hustling the forms, the ladders, the perimeters of these territories, and modifies deeply the conditions of economic, cultural, social or territorial developments which is deployed in these. ART - Dev takes a special look at the roles and the dynamics of the actors of these changes in approaches integrating institutional actors (State, public actors), private (business, financial players) to the individuals concerned (citizens, users, associations, etc.) and the different kinds of resources that they mobilize. See: <http://art-dev.cnrs.fr>

For example, in 2017-2018, students of the first year did their workshop about the night in Montpellier: "Vivre sa nuit à Montpellier" / "Living the night in Montpellier" (the whole document can be viewed at <https://halshs.archives-ouvertes.fr/halshs-01539033>)

Links with the ANR Smartnights "For sustainable and inclusive urban nights", a program (2018-2021) financed by French Minister of Research.

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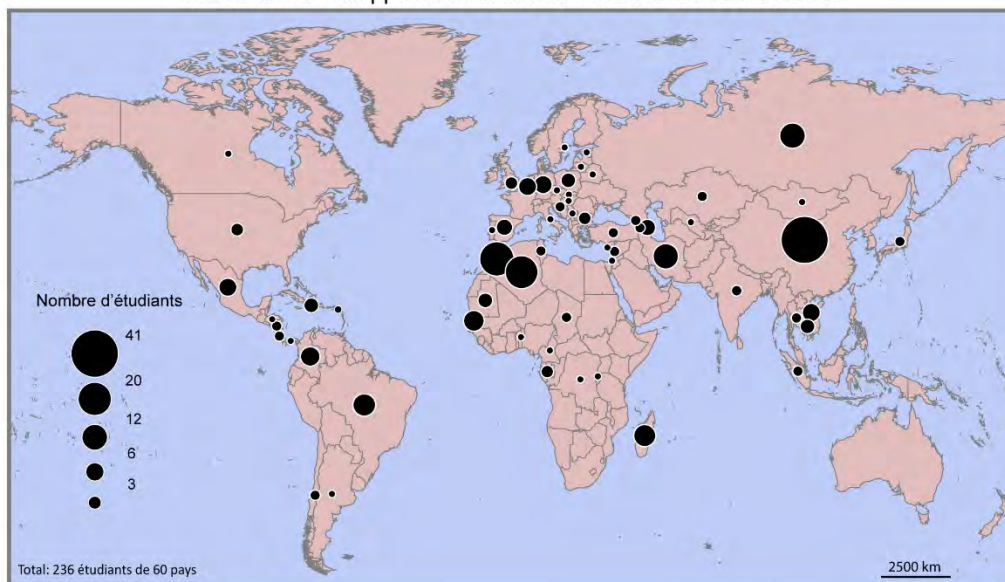


PHC Galilée (2017) “Political and social change in the urban night in the Mediterranean area”, PHC Procope (2018-19) “Evolutions of the urban night in University cities” and PHC Polonium “nocturnalisation et studentification des villes européennes” (2019-21), both financed by the French Minister of Foreign Affairs

Partnerships and conventions are being made with several European and international Universities which allows students to come to the master, teachers to come for mobility and development of common projects. The master thus organized communications of researchers from several Universities and entered partnership agreements with HNE Eberswald (Germany); U. Ziguinchor (Senegal); U. Warsaw (Poland); U. ‘Ca Foscari, Venice, Italy; U. Milano; U. Liège (Blegium); U. Federale de Rio Grande do Norte (Natale, Brazil); ACECR Mashhad, Iran; U. Catolica, Valparaíso, Chile; U. Porto; U. Cagliari.

Finally, a lot of students come from abroad to study in this master (see figure 2).

Origines géographiques des étudiants étrangers du master  
Tourisme et Développement Durable des Territoires de 2008 à 2019



Réalisation Maéva Saboureau avec Philcarto  
11/2018, Master TDDT, Université Paul Valéry Béziers



Figure 2: Geographic origins of international students in the master Tourism and Sustainable development pf territories between 2008 and 2019



### 1.2.3 Curricula of the 2-years Master in Tourism in Montpellier 3

The first year of the master offers theory classes on territories and societies, on tourism and methods of research (qualitative and quantitative research with field practices such as observation, interviews and surveys). It also allows students to follow an English class and a workshop about territorial diagnosis (see figure 3).

Nature UE/ECUE	Semestre 1	Volume Horaire	CM	TD	TP	ECTS*
	PARCOURS TDDT - 5 unités d'enseignement					
V11TOD6	Dynamiques des territoires et des sociétés	24	24			5
V12TOD6	Territoires et tourisms	36	36			6
V13TOD6	Méthodologie du projet de territoire : enquête, diagnostic, prospective	42	6	36		6
V14TOD6	Professionalisation et animation de projets	42	6	36		5
V15TOD6	Interfaces et approches participatives (e-tourisme)	42	6	36		5
	LANGUE VIVANTE - 1 unité d'enseignement					
V19TOD6	Langue vivante (anglais)	20		20		3
	<i>Total Semestre 1</i>	<i>206</i>	<i>78</i>	<i>128</i>		<i>30</i>
Nature UE/ECUE	Semestre 2	Volume Horaire	CM	TD	TP	ECTS*
	PARCOURS TDDT - 2 unités d'enseignement					
V21TOD6	Atelier tuteuré 1 : diagnostic territorial	100		100		10
V22TOD6	Stage encadré (12 à 14 semaines) : TER et soutenance					20
	<i>Total Semestre 2</i>	<i>100</i>		<i>100</i>		<i>30</i>
	<i>Total Master 1</i>	<i>306</i>	<i>78</i>	<i>228</i>		<i>60</i>

Figure 3: curriculum of the 1<sup>st</sup> year of the master Tourism and sustainable development of territories in Paul Valéry Montpellier.

The second year offers a course on Tourism and sustainable development of territories: concepts, logics and representations. The other classes are more workshops and professional ones: “entrepreneurship strategies and techniques of promotion of tourist projects”, “Communication, valorization and openness to international”, an English class and a workshop: planning and touristic project (see figure 4).



Nature UE/ECTS	Semestre 3	Volume Horaire	CM	TD	TP	ECTS*
	PARCOURS TDDT - 4 unités d'enseignement					
V31TOD6	Tourisme et développement durable des territoires : concepts, logiques et représentations	78	78			8
V32TOD6	Stratégies entrepreneuriales et techniques de promotion d'un projet touristique	84		84		6
V33TOD6	Communication, valorisation et ouverture à l'international	36		36		6
V34TOD6	Atelier tuteuré 2 : aménagement et conduite de projet	92		92		7
	LANGUE VIVANTE - 1 unité d'enseignement					
V39TOD6	Langue vivante (anglais)	20		20		3
<i>Total Semestre 3</i>		<b>310</b>	<b>78</b>	<b>232</b>		<b>30</b>
Nature UE/ECTS	Semestre 4	Volume Horaire	CM	TD	TP	ECTS*
	PARCOURS TDDT - 1 unité d'enseignement					
V41TOD6	Stage encadré (18 à 24 semaines) : TER et soutenance					30
<i>Total Semestre 4</i>						<b>30</b>
<i>Total Master 2</i>		<b>310</b>	<b>78</b>	<b>232</b>		<b>60</b>

\* ECTS (Système Européen de Transfert et d'Accumulation de Crédits)  
Version au 29 septembre 2015

Figure 4: curriculum of the 2<sup>nd</sup> year of the master Tourism and sustainable development of territories in Paul Valéry Montpellier 3

### 1.2.4 Professionalization of students throughout the master

The TDDT master training has five professional orientations:

- Requalification of local structures of tourism and leisure.
- Production of naturalist, sportive or cultural discovery routes (including the gastronomic and oenological tasting) in tourism offices and/or public service.
- Managing hotels, holiday villages or eco-lodge.
- Publishing specialized media in promoting cultural and naturalist territories, tourism development, recreation and sportive natural tourism
- Designing offices and planning

List of professional networks: all these partnerships have been signed through conventions (in bold, those which generates several workshops; the date refers to the first collaboration)

- **Communauté d'Agglomération Hérault-Méditerranée** (2009),
- CCI Annonay- Nord Ardèche (2009),
- CCI Béziers-St-Pons (2010),
- **UNAT Occitanie** (2010; i.e. Federation of social tourism actors)
- Association Terra e Acqua (Venise, 2011),

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- Communauté de communes Vallée de l'Hérault (2012),
- Lander de Brandebourg, Germany (2012),
- **Communauté d'Agglomération du Grand Narbonne** (2013),
- Communauté de communes Causses-Aigoual-Cévennes (2013),
- Commune du Grau-du-Roi (2014),
- **Parc National des Cévennes/Cévennes Ecotourisme** (2015),
- CCI Régionale Languedoc-Roussillon (antenne de Sète, 2015),
- Commune de Vendres (Hérault, 2015),
- Village de Vacances ULVF Les Girelles, St-Pierre-la-Mer (Aude, 2015),
- **Association Ecolocal** (Narbonne, 2015 et 2016),
- Communauté d'Agglomération Hérault-Méditerranée (Pézenas-Agde, 2016)
- Communauté d'AOC Faugères (2016),
- Commune de St-Guilhem-le Désert (2016),
- Office de tourisme de Lunel (2016),
- **OT Narbonne** (2018),
- Communauté de communes des Avant-Monts (Hérault, 2019).

## 2. RECOMMENDED AND EMERGING AREAS OF CONCERN FOR SUSTAINABLE TOURISM

The purpose of this section is to present an analysis of internationally recognised recommendations dealing with the needed levels of knowledge and skills of the emerging areas of sustainable tourism dealing with climate change and resilience measures especially for coastal contexts.

To gain insights into the learning and professional development needs of the tourism industry, in 2016 TrainingAid undertook a survey of 105 tourism stakeholders from 52 countries within Europe, Central Asia, the Americas, and Asia-Pacific. Most of the survey participants were affiliated with the private sector (e.g. tour operators and travel agencies), academia, non-profit organisations, accommodation sector, and government agencies; and were categorised as either an “Employer” or “Employee”. When asked what, in their experience, were the skill gaps in the tourism industry, sustainability-related skills (e.g. sustainable tourism practices, expertise in responsible tourism solutions) were among the most frequently identified by tourism Employers. This was in contrast, however, to Employees who cited sustainability as one of the least important skill required for their current or desired future job. Technical and position-specific skills (e.g. customer service, digital marketing, financial management) were identified by the majority of Employees as most important (Ezaki, 2016).

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Despite the seemingly divergent perspectives highlighted in the study above, *sustainability* is now viewed as a crucial component of higher education institutions' tourism curricula to produce industry professionals that are equipped with the required knowledge and skills to promote sustainable tourism development (Ezaki, 2016; Paris, 2016). In fact, regarding the same study, TrainingAid asserted that universities and educational institutions have a significant role to play in helping to combat the notion among tourism industry professionals that sustainability is reserved for “sustainability people” by raising awareness of the need and value of persons with a solid understanding of sustainability issues and the skills to implement sustainable tourism practices in all facets of the industry (Ezaki, 2016). Essentially, tomorrow's tourism professionals will be required to employ “critical long-term considerations of tourism's impacts, notions of equity, an appreciation of the importance of linkages (economic, social and environmental), and the facilitation of co-operation and collaboration between different stakeholders” (Rutty & Richardson, 2019, p. 3).

With respect to emerging areas of concern for sustainable tourism, climate change and resilient development are at the forefront. Observed knowledge gaps pertaining to climate change and tourism include the generation of tourism data, development of vulnerability assessments, use of climate analogues for projecting impacts, promotion of adaptation and proactive crisis management, and incorporation of climate change in tourism policies (Moreno & Amelung, 2009).

The World Travel and Tourism Council (WTTC), which has partnered with UN Climate Change, has initiated the “Tourism For Tomorrow” awards which seek to encourage industry stakeholders to adopt a climate-friendly regimen. Examples of the ways travel and tourism industry stakeholders can demonstrate climate-smart action – and which can be incorporated in a sustainable tourism curriculum – include:

- Supplying sustainably sourced food
- Using renewable energy
- Using sustainability dashboards
- Using/improving technologies
- Reducing water usage and waste
- Using electric vehicles, alternative fuel, and cycling options for transport
- Carbon offsetting (for large corporations)
- Building infrastructure with sustainable materials and low-impact designs
- Protecting local environment and enhancing biodiversity (UNFCCC, 2018).

Tourism resilience is grounded in socio-ecological systems theory; that is, recognising that humans and the environment are inseparably linked and this connection must be managed to ensure a sustainable supply of essential ecosystem services. Applying resilience approaches can involve building adaptive capacities in the tourism industry that would help enable stakeholders to cope and respond to

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changes and shocks. Resilience thinking should be viewed as complementary to sustainable tourism. Where the primary focus of sustainability may be to protect and conserve, resilience thinking extends this to involve adaptation, innovation and possibly transformation (Cheer & Lew, 2017).

In designing a curriculum for sustainable tourism, consideration must also be given to developing 'soft skills' – personal attributes that enable people to perform well, successfully interact, communicate and work harmoniously with others. With coastal tourism in particular, issues of conflicting resource uses may arise and therefore the ability to effectively negotiate would be useful. In the TrainingAid survey, both Employers and Employees stressed the importance of soft skills such as interpersonal communication, cross-cultural understanding, the ability to collaborate, employ critical thinking, be self-motivated, and to turn information and knowledge into practical actions (Ezaki, 2016). With tourism becoming more integrated into daily life, consumer decisions will be more politicised around issues of sustainability and being a good consumer citizen. For graduates, this means there will be even more emphasis on professional qualities such as self-reflexivity, adaptability, collaboration, communication and flexibility. The challenge, therefore, will be for higher education institutions to develop curricula and learning experiences that strengthen such soft skills (Dredge, 2016, p. 23). Moreover, they will need to bridge the gap between theoretical knowledge and practical applications of sustainability principles (e.g. through internships or on-the job training programmes) (Malihah & Diyah Setiyorini, 2014; Paris, 2016).

It is also important to recognise that based on the broad concept of sustainable tourism, there are also a number of derivatives that can be applied, depending on the specific type of attractions and local settings, such as responsible tourism, voluntourism, community-based tourism, ecotourism, cultural tourism, heritage tourism, education tourism, adventure tourism, slow tourism, social tourism, indigenous tourism, and various other niches (Cheer & Lew, 2017).

## **2.1 Examples of International Sustainable Tourism Master's Programmes**

An important action for higher education institutions is to promote awareness among current and prospective tourism industry professionals of the value and career paths in sustainable tourism. Further, they must develop curricula that respond to the dynamism of the tourism industry; engendering both 'hard' and 'soft' skills, as well as practical experiences, that promote sustainable tourism development.

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To establish a basis of the standard and/or recommended content of sustainable tourism curricula, a desk review of master’s-level programmes offered by nine (9) international universities was undertaken, **Table 2**.

Table 2: Master’s in Sustainable Tourism Programmes

University	Master’s Degree	Programme Courses / Modules / Themes
University of Cagliari, Italy	<i>Sustainable Tourism Management and Monitoring</i> <a href="#">Folder</a>	<ul style="list-style-type: none"> <li>○ Strategic Management for Sustainable Tourism</li> <li>○ Sustainability and Touristic Development</li> <li>○ Anthropology of Tourism and Cultural Heritage</li> <li>○ Entrepreneurship and Business Creation</li> <li>○ Environmental and Cultural Policies</li> <li>○ Management and Marketing in Touristic Destinations</li> <li>○ Environmental Planning</li> <li>○ Information Systems and database management system (DBMS)</li> <li>○ International Standards and Tourism Indicators Monitoring</li> <li>○ Spatial Tourism Data Analysis</li> <li>○ International Environmental Law and Policy</li> <li>○ Traineeship</li> <li>○ Optional Exams</li> <li>○ Final test</li> </ul>
University Paul-Valéry Montpellier, France	<i>Tourism and territorial sustainable development</i> <a href="#">Folder</a>	<ul style="list-style-type: none"> <li>○ Concepts, logics and representations of sustainable tourism</li> <li>○ Entrepreneurial strategies and project promotion</li> <li>○ Communication, valuation and international openness</li> <li>○ Project management</li> <li>○ Supervised internship</li> </ul>
Coventry University, UK	<i>Sustainable Tourism</i> <a href="#">Folder</a>	<ul style="list-style-type: none"> <li>○ The economic, environmental and socio-cultural impacts, traditional planning approaches and recent shift</li> <li>○ Sustainable development principles.</li> <li>○ Indicator development frameworks and monitoring.</li> <li>○ Forecasting demand and increasing tourist satisfaction.</li> </ul>

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University	Master's Degree	Programme Courses / Modules / Themes
		<ul style="list-style-type: none"> <li>○ Issues related to maintaining sustainability in destinations and tourism organisations.</li> <li>○ Contemporary challenges (e.g. disasters and economic crises affecting destinations), and current debates such as the Green Economy</li> </ul>
University of Glasgow, UK	<i>Management &amp; Sustainable Tourism</i> <a href="#">📁</a>	<p><b>Core Courses:</b></p> <ul style="list-style-type: none"> <li>○ Business finance</li> <li>○ Contemporary issues in human resource management</li> <li>○ Events management</li> <li>○ Managing creativity and innovation</li> <li>○ Managing strategic change</li> <li>○ Operations management</li> <li>○ Service delivery risk and resilience</li> <li>○ Tourism sustainability</li> </ul> <p><b>Electives:</b></p> <ul style="list-style-type: none"> <li>○ Environmental ethics and behavioural change</li> <li>○ Environmental politics and society</li> <li>○ Sustainable heritage management</li> <li>○ Tourism marketing</li> </ul>
University of Glasgow, UK	<i>Tourism, Heritage &amp; Sustainability</i> <a href="#">📁</a>	<p><b>Core Courses:</b></p> <ul style="list-style-type: none"> <li>○ Heritage, interpretation and development</li> <li>○ Heritage, management and context</li> <li>○ Tourism and regional development</li> <li>○ Tourism, sustainability and climate change.</li> </ul> <p><b>Electives:</b></p> <ul style="list-style-type: none"> <li>○ Climate change: impacts on ecology</li> <li>○ Environment, technology and society</li> <li>○ Environmental communication</li> <li>○ Environmental ethics and behavioural change</li> <li>○ Environmental politics and society</li> <li>○ Event management</li> <li>○ Reading the environment: old and new world romanticisms</li> <li>○ Tourism marketing</li> <li>○ Writing the environment: modern and contemporary nature writing</li> </ul>





University	Master's Degree	Programme Courses / Modules / Themes
<p>Eberswalde University for Sustainable Development, Germany</p>	<p><i>Sustainable Tourism Management</i></p> <p><a href="#">Folder icon</a></p>	<p><b>Core Courses:</b></p> <ul style="list-style-type: none"> <li>○ Tourism, Environment &amp; Society</li> <li>○ Tourism Economy</li> <li>○ Basics of Marketing Management</li> <li>○ Applied Marketing Management</li> <li>○ Basics of Sustainable Destination Management</li> <li>○ Destination and Protected Area Management</li> <li>○ Sustainable Business Management</li> <li>○ CSR in Tourism</li> <li>○ eTourism</li> <li>○ One-week field trip to a destination in Europe</li> </ul> <p><b>Electives:</b></p> <ul style="list-style-type: none"> <li>○ Cultural Tourism and Sustainability</li> <li>○ Environmental Education in Tourism</li> <li>○ Sustainable Field Trip Planning</li> <li>○ Communication &amp; Presentation</li> <li>○ Tourism in Developing Countries</li> <li>○ Online Marketing Cases</li> <li>○ Social Entrepreneurship</li> </ul>
<p>The Ostelea - School of Tourism and Hospitality, Spain</p>	<p><i>Sustainable Tourism Destinations and Regional Tourism Planning</i></p> <p>/</p> <p><i>Sustainable Tourism Destinations and Territorial Tourism Planning</i></p> <p><a href="#">Folder icon</a></p>	<ul style="list-style-type: none"> <li>○ Governance and sustainable planning of tourism products and destinations.</li> <li>○ Sustainable tourism development.</li> <li>○ Evaluation, management and conservation of natural heritage.</li> <li>○ Tourism Management of natural heritage from a sustainability perspective.</li> <li>○ Master's Thesis</li> </ul>
<p>Monash University, Australia</p>	<p><i>International Sustainable Tourism Management</i></p> <p><a href="#">Folder icon</a></p>	<p><b>Part I. Core master's study:</b></p> <ul style="list-style-type: none"> <li>○ Cultural and nature-based product management</li> <li>○ Digital tourism economy</li> <li>○ Tourism industry and marketing</li> <li>○ Applied industry research and practice</li> </ul> <p><b>Part II. Advanced expertise:</b> (you must complete A. or B. below)</p> <p><b>A.</b> One capstone unit from the following:</p>



University	Master's Degree	Programme Courses / Modules / Themes
		<ul style="list-style-type: none"> <li>○ International tourism marketing research project</li> <li>○ Contemporary tourism and development in emerging economies</li> <li>○ Research</li> </ul> <p>Plus, one of the following units:</p> <ul style="list-style-type: none"> <li>○ Sustainable tourism development and planning</li> <li>○ Global challenges and sustainability</li> <li>○ Perspectives on sustainability</li> </ul> <p><b>B. Research thesis unit/s</b></p> <p><b>Part III. Specialist knowledge</b> (you must complete A. or B. below)</p> <p><b>A. One unit from the following (if not completed earlier):</b></p> <ul style="list-style-type: none"> <li>○ Cultural economy and sustainable development</li> <li>○ Contemporary tourism and development in emerging economies</li> <li>○ Project planning and management in international development</li> <li>○ Global challenges and sustainability</li> <li>○ Perspectives on sustainability</li> </ul> <p><b>B. One unit from the following or units from any other Arts Graduate coursework program:</b></p> <ul style="list-style-type: none"> <li>○ Research methods for development practice and change</li> <li>○ Environmental analysis</li> <li>○ Corporate sustainability management</li> <li>○ Managing multicultural teams</li> <li>○ Leadership in intercultural environments</li> <li>○ Strategic events management</li> <li>○ Deconstructing development</li> <li>○ Communications theories and practices</li> <li>○ Cultural economy</li> </ul>
Arizona State University, USA	<i>Sustainable Tourism [Online]</i> 	<p><b>Core Courses:</b></p> <ul style="list-style-type: none"> <li>○ Advanced Tourism and Recreation Studies</li> </ul>



University	Master's Degree	Programme Courses / Modules / Themes
		<ul style="list-style-type: none"> <li>○ Sustainable Thinking in Tourism I</li> <li>○ Sustainable Thinking in Tourism II</li> <li>○ Sustainable Tourism Destination Planning and Management I</li> <li>○ Sustainable Tourism Destination Planning and Management II</li> <li>○ Sustainable Food Management in Tourism</li> <li>○ Managing the Sustainable Tourism Business</li> <li>○ Sustainable Tourism</li> </ul> <p><b>Electives:</b></p> <ul style="list-style-type: none"> <li>○ Culminating Experience</li> <li>○ Applied Project</li> </ul>
<p>George Washington University School of Business, USA</p>	<p><i>Sustainable Management</i> <a href="#"></a> <i>Tourism</i></p>	<p><b>Core Courses:</b></p> <ul style="list-style-type: none"> <li>○ Sustainable Destination Management</li> <li>○ Applied Quantitative Methods and Applications</li> <li>○ Organisation and Human Capital or New Venture Initiation</li> </ul> <p><b>Concentration Courses:</b></p> <ul style="list-style-type: none"> <li>○ Destination Economics</li> <li>○ Tourism Policy &amp; Planning</li> <li>○ Destination Marketing</li> </ul> <p><b>Suggested Electives:</b></p> <ul style="list-style-type: none"> <li>○ Consultative Processes</li> <li>○ International Hospitality Management</li> <li>○ Risk Management for Event &amp; Meeting Industry</li> <li>○ Event Management</li> <li>○ Management of Destination Organisations</li> <li>○ International Experience</li> <li>○ Practicum</li> <li>○ Hospitality Digital Marketing Strategies</li> <li>○ Thesis Seminar</li> <li>○ Thesis Research</li> <li>○ International Marketing</li> <li>○ Conflict Management and Negotiations</li> </ul>



University	Master's Degree	Programme Courses / Modules / Themes
		<ul style="list-style-type: none"> <li>○ Small Business Management</li> <li>○ Integrated Marketing Communications</li> </ul>

From a review of the literature and the above international sustainable tourism master's programmes, preliminary recommendations of topics and courses for consideration when developing a Sustainable Tourism curriculum for the Caribbean and Latin America are as follows:

- Sustainable Development Principles
- Sustainable Tourism Destination Planning, Management and Governance
- Environmental Planning
- Integrated Coastal Zone Management
- Socio-ecological Systems Theory
- Climate Change and Tourism
- Disaster Risk Reduction and Tourism
- Cultural and Nature-based Product Management
- Environmental Ethics and Behavioural Change
- Applied Industry Research and Practice
- Marketing in Touristic Destinations
- Spatial Tourism Data Analysis
- eTourism
- Sustainable Food Management in Tourism
- Destination Economics
- Strategic Management for Sustainable Tourism
- Small Business Management
- Communications Theories and Practices
- Conflict Management and Negotiations
- Corporate Sustainability Management
- Contemporary Challenges (e.g. disasters and economic crises) and Opportunities (e.g. Blue and Green Economy) Affecting Destinations
- Internships
- Field Trips

### 3. INDICATORS TO BE GATHERED IN THE OBSERVATORIES

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This section of the report provides an analysis and assessment of the environmental and management indicators that will be gathered in the observatories on sustainable tourism and environmental protection.

### **Defining the Observatory**

An observatory could be defined as a mechanism or instrument built with the objective of providing systematized information on a specific topic or area of interest for decision making.

The results of the observations allow us to build scenarios, generate planning processes or interpret the reality of some topic or region within the scope of the observatory.

The observatory allows to control and monitor delimited observation areas, both internally, for example, the impact and evolution of measures taken at the territorial level, as well as externally, for example, effects on the territory by productive activities outside the scope area.

The information generated may have academic, political or business use, or a mixture of them, however, it is important delineate clearly the boundaries of its areas of observation. The production of information should start from the determination of these areas, followed by the establishment of indicators, to later generate dissemination and impact strategies.

To fulfill the objective for which it was created, which is the use of the information, it is essential that it be hosted in an easily accessible platform.

### **Justification of the observatories**

Information is fundamental for a responsible decision making. Activities such as tourism bring and have brought great benefits to regions and countries in general, but measures without criteria or with partial information, could generate negative impacts in the short, medium or long term.

In a situation like the one we are currently facing, where global change increases some of the threats facing social, natural and built capital, information is even more necessary, not only for now but for the future where, through scenarios, we can forestall a series of events that could be foreseen, avoided or mitigated. Today we must go way beyond the search for sustainability because the changes we experience are exponential, so that decision making cannot wait for years.

An observatory does not necessarily have to create all the information to respond to the proposed indicators, since there is a large amount of data from diverse sources. After defining the indicators, it is essential to determine the sources that will be

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available to obtain such information. This exercise will generate an important input that is the definition of gaps, which should be complemented with our own information.

However, in the more detailed topics of the STOREM project, which does not only involve tourism but sustainability, especially in coastal marine areas in the Caribbean region, it is undeniable that information is required, especially due to the fragility of ecosystems, the influx of visitors and the socio-economic dependence on this activity.

Some of the justifications for an observatory within the framework of this project could be:

- The generation of essential information to provide inputs for making decisions, both public and private.
- An observatory, with clear areas of control, that helps to detect emerging problems in advance and provides the basis for better attention to risk.
- Follow up on the application of activities to determine possible corrective measures, as well as assess their impact.

At this time, when sustainability has proven to be insufficient to stop the accelerated process of planetary collapse, it is proposed that the information to be generated contemplates regenerative development criteria so that we can generate inputs for the recovery of ecosystem and social resilience at bioregional level.

It is also essential to observe the patterns of change that occur in the tourist activity, where new proposals for reception, assistance and the dynamics of practice appear continuously. It is key that this topic be contemplated in the observations, from a critical perspective, that helps the decision making of the sector as well as the prevention of negative effects on the environment.

### **Observatories and its characteristics**

The observatories associated with the STOREM project must have their own identity, which allows generating general results for the different HEI involved in it, but also specific results for each one.

In a brief review of the characteristics of several of the current observatories on tourism, it was found that those observatories are focused mainly on issues related to the supply and demand of visitors, and especially focused on the production of quantitative information (number of visitors, beds, visitor seasonality, among others), but a focus on the sustainability of the activity from a holistic perspective is practically non-existent.

With regard to the issue of sustainability, those observatories that have sustainability as an element of observation, include indicators that are usually aimed at assessing

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traditional practices such as the use of biodegradable inputs, communication strategies for awareness, consumption reduction and measures for energy maximization among others, but are lacking comprehensive measures to generate benefits and positive impacts of tourism practices.

It would be ideal that the network of observatories that are proposed, focus on the dynamics of tourism complexity, its components and relationships and not invest energies on generation of data from isolated areas or sections of the tourism dynamic. It is also important that they address territorial dynamics, focus on the benefits provided by ecosystem services and include variables associated with each of the dimensions of sustainable development.

The observatory must also serve as a point of dialogue between the different actors in the territory (bioregional approach) that are related to the activity (political sector, local people, businessmen, tourism activity workers among others). The observatory is also important as a space for strengthening interuniversity capacities, associated with this project, that can be understood as a catalyzer for collective intelligence.

Another fundamental aspect for the success of these observatories is that they must be complemented with initiatives to disseminate and use information. If this component is absent, the observatory will be very weak and may fail.

It is essential that the observatory does not wait to generate data sets for long periods to make decisions or to disseminate, since the speed of the changes we experience does not allow us to wait long for decisions.

The information must be shared at a pace that allows the basis of an adaptive management, that basically is, the one that provides both the notion for decision-making process but also the capability of adjustment according to the evolution of the subject of analysis in question. Continuous monitoring of the indicators will be a key aspect.

The observatory must have a strong component of Geographic Information Systems that allows to visualize in the territory the group's findings.

Finally, communicationally the products must be different and suitable for varied audiences, including newsletters, reports, infographics reports, videos, among others. The construction of these must integrate different media and use simple language.

### **Observatory construction process:**

The first step in the construction of the observatory is defining what will be measured and how it will be measured and then the work structure must be established

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accordingly. It is also essential to determine what will be the outputs of the observatory, which refers not only to the type of product but also the approach of policy proposals for companies, public sector, communities, among others.

Given the importance of the impact to be generated, it is essential that the observatory be built in a participatory manner, with indicators defined in the same way and contemplating the capacities and motivations of each HEI involved.

As far as governance is concerned, and given that a network of observatories will be established, a model of interuniversity coordination is suggested, in which one member per institution is assigned as responsible. This group will make decisions related to monitoring indicators, guidelines for the development of dissemination materials, impact assessment, definition of adaptation strategies among others.

At the operational level, a permanent structure will be established within each university for the production or collection of data, interpretation and production of reports. In addition, it is key to define responsible for dissemination and incidence.

According to the subject, inter-university task forces may be established to develop specific information of interest to the network.

### **Differentiating element**

On one of the areas of interest of the STOREM project, which is tourism, Brazales, et al 2018, indicates that there are 128 tourist observatories worldwide, although only 18 are registered with the UNWTO (UNWTO). In that sense, it is necessary to have clarity both of the differentiating elements of the observatories and of the particular requirements that they will have. To improve efficiency, it is key to take advantage of existing information.

One aspect in relation to the number of observatories is that they are very focused on supply and demand flows, as well as economic aspects, while the proposal of our observatories are more directed, towards the sustainability of tourism practice from a holistic view.

As an important and differentiating element in the production of observatory information, it is to move from data analysis thinking of a cluster structure to a co-creation approach. In that structure it is a large group of members (represent by the HEI) that provides solutions, through a network of learning that is consolidated on these spaces of observation.

It is considered that the work focused only on the hotel sector, without working all the problems of a particular area and in all its dimensions, will not be able to generate the expected impact of these observatories. The efforts must give insights at bioregional or territorial level.

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From the form, it is essential that information will be prepared following storytelling guidelines, developing issues of common interest to all stakeholders in a collaborative manner.

### **Objectives of the observatories associated with the STOREM project.**

The network of observatories is set as the main objective of generating knowledge for decision-making on tourism sustainability, of tourism actors and agents at the state, regional and local levels. Thinking this development as one that consolidates from co-creation and attention to the social, economic, environmental, cultural, political and spiritual dimensions of sustainability.

A more holistic vision is expected to contribute to product diversification through recommendations and opportunities that the observatory identifies.

The observatory network is expected to address the complexity of tourism and interpret through dynamic monitoring the dynamic realities that are especially faced with the understanding of these variations and global change.

### **Ideas on topics to analyze in the indicators of the STOREM project**

Given that the identification of indicators must be carried out based on the joint definition of the need of all the HEI involved, it is not recommended that the indicators be determined by a single route, however, the not exhaustive list of topics below could give some idea of possible areas to address.

In this first phase a common framework must be consolidated, which helps to have a initial overview of what we expect with the observatory.

It is important to have in mind that both general indicators (topics of interest of the whole group of HEI) and specific indicators (topics of interest of any of the HEI) should be defined.

On the other hand, it is essential to delimit the areas of approach, taking into account what we want to achieve and what we can develop with our capabilities. This trying not to become saturated with work and data, keeping track of what we are interested in observing and taking advantage of the fact that some people are taking data in other observatories or through other means.

### **Topic ideas.**

- Certification of territories from the point of view of bioregional development.
- Fertilizers and agrochemical and their effects on Caribbean waters and its biodiversity.

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- Ecological footprint throughout the tourism value chain.
- Impact of exotic species on the territorial dynamic.
- Dynamics outside the Caribbean with effects on the region.
- Regeneration and environmental recovery.
- Evaluation of tourism benefits in the different dimensions of sustainable development.
- Relationship of coastal marine dynamics and agricultural and industrial production.
- Tourism from the point of view of community development.
- Real impacts of tourism on local development through the use of tourism infrastructure.
- Productive chains and social inclusion in tourism.
- Agrobiodiversity and tourism
- System B practices applied to tourism.
- Principles of regenerative tourism
- Occupational health aspects of employees in the tourism industry and benefit distribution.
- Impacts of climate change on tourism activity.
- Food security, water and key ecosystem services for tourism development.
- Global change scenarios in the region and expected magnitude of impact
- Food safety
- Positive impact of the general economy of the communities, beyond incentives and payments to governments
- Social problems related to tourism (prostitution, drug addiction, etc.)
- Adaptive capacity of the industry in the face of the global challenges and political adjustments.
- Ecosystem services as nature-based solutions
- Sustainable consumption
- Effects of erosion and sedimentation in coastal marine areas
- Pollution in marine coastal areas.

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- Reef health
- Loss of coastal dunes
- Status of indicative species
- Situation of species of commercial importance, especially those used by tourism.
- Identification of good management practices
- Control of physical chemical variations of water
- Perception of visitors.
- Cultural dynamics of local communities
- Visitor maturity in the Caribbean.



## **PART 2**

This section of the report provides a definition of:

- I. The pathway mission, objectives, and learning outcomes for 2 masters degrees developed respectively in Costa Rica (P6), and Colombia (P3); and
- II. The specific activities/ courses that will enrich existing curricula in Colombia (P4), West Indies (P7) and Costa Rica (P5).

## **4. PATHWAY MISSION, OBJECTIVES, AND LEARNING OUTCOMES**

### **4.1 Unimagdamena**

#### **4.1.1 General Training Purpose**

Train professionals with standards of excellence and academic quality, with an interdisciplinary vision, providing tools that facilitate the understanding of the factors that affect the problems of the tourism sector, based on the analysis, design and management of public policies, plans, programs and projects that contribute to the strengthening of sustainable tourism, thus responding to the socio-environmental, cultural and biodiversity challenges of the regions.

#### **4.1.2 Specific Training Purposes**

- Promote the study and research of tourism for the generation and application of new knowledge and management methods oriented towards Sustainability.
- Create capacities from an integral vision, to analyse the socio-environmental and cultural problems of tourism, and generate solutions from the perspective of Sustainability.
- Build capacity to generate and implement models for solving complex problems, establishing objectives, strategies, and management programs and measures.
- Build capacity to face the challenges of integrated management, and apply the necessary instruments, for the coordination of interests and the articulation of sustainable tourism planning instruments.
- Facilitate the recognition of national and international best practices and management experiences in tourism and the environment.

#### **4.1.3 Learning Outcomes – Competences**

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## **General Competences**

- Strengthen the description, analysis, synthesis and argumentation capabilities related to the planning, management and policies of sustainable tourism and environmental management.
- Create ethical, ecological and social solutions to the challenges facing the tourism industry in sustainability processes.
- Lead tourism management and planning processes in the field of sustainable development.
- Interpret sustainable tourism management policies and tools to carry out innovative and technological projects that contribute to regional and local economic development.

## **Research Track Competences**

- Develop skills aimed at research with critical thinking from the review and analysis of theories and practices of sustainable processes.
- Improve the understanding and interpretation of the reality of tourism, the economy and the environment for the production of knowledge.
- Acquire skills for the design of projects and research programs that foster innovation.
- Obtain the knowledge to apply scientific regulations and methodology to research projects.

## **Specialization Track Competences**

- Obtain the knowledge and tools necessary to analyse and interpret the international, national and regional tourism reality.
- Acquire a comprehensive vision, knowledge and skills necessary to design and implement tourism projects that generate positive impacts on the economic, social and environmental environment.
- Develop the necessary skills to optimize the management and exchange of multidisciplinary knowledge that promotes creativity, collaboration and critical thinking.
- Acquire an entrepreneurial, innovative and sustainable vision for public and private decision making in the tourism field.

### **4.1.4 Career Perspectives**

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## Employment Outlook

The Masters' in Sustainable Tourism and Environmental Management graduates may develop their professional activity or research in territorial entities, environmental authorities, administrative entities, control bodies, research centers, universities and companies, both public and private, consulting, training and Teaching in the national and international spheres.

The graduate may perform in the following areas:

- Manage and plan the development of sustainable tourism and environmental management.
- Teaching and research in integrated management and sustainability of tourism and the environment.
- Advise and technically support decision makers (politicians), selection of strategies, mechanisms, procedures for the development of activities, tourism planning and planning.
- Lead or advise civil society organizations in sectoral projects (tourism and environmental management).
- Coordinate, direct and / or participate in the development of instruments and integrated management projects for the sustainability of tourism and the environment.

## 4.2 UNA

### 4.2.1 General Objective

To prepare academic professionals to act as researchers and university professors in the field of sustainable tourism. In order to achieve this goal, the Master's program will offer the students a critical and reflective perspective on the reality of tourism at world wide scale, with a primary focus on Latin America, and specifically the Mesoamerican and Caribbean regions. The proposal intends that the student develops a scientific research proficiency in the field of sustainable tourism, as well as training to act as professor in higher education institutions. In addition, the program aims to offer skills and competences of leadership, creativity, ethics, communication and management so that the professional is prepared as decision maker with full commitment on the sustainable tourism sector in any country he wishes to act, always knowing the laws in the respective country.

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#### **4.2.2 Admission Profile**

Professionals with a university degree in the most diverse professional areas are the target audience of the program, who are interested in the sustainable development of tourism. It is suitable for technical professionals and managers in the public and private sphere of tourism, hospitality, leisure and related areas; to educators from basic and higher levels; to recent university graduates; to professionals who already work in the field of tourism and who wish to deepen their specific knowledge about tourism and sustainability. Moreover, to all those interested in understanding, planning, the conservation, management and innovation of natural resources.

#### **4.2.3 Exit Profile**

The professionals will be able to act as researchers and university professors in the field of sustainable tourism. They will have a critical and reflective view on the reality of tourism and sustainability. Also, they will be able to develop and coordinate scientific research projects in the field of tourism and sustainability, as well as being able to act as instructors in higher education institutions. Besides, they will have leadership skills, creativity, ethics, communication and management and will be trained to occupy a position of decision making and responsibility in the tourism sector in any region he/she wishes to work in. The trained graduate will be able to work in various sectors of society, including:

- Public and / or private tourism institutes, in local, regional and national waits
- Tourism research institutes
- Tourism consultancy institutes
- Inspection and environmental protection bodies
- Tourism planning and environmental advisory companies
- Higher education institutions
- Environmental monitoring companies
- Third sector and organized civil society organizations



Table 3: The proposed curriculum comprehends one mandatory common axis for all students and two specialized lines of work

<b>Mandatory common courses:</b> <b>Fundamentals of sustainable tourism</b>	<b>Line 1</b> <b>Theories and trends of tourism and sustainability</b>	<b>Line 2</b> <b>Planning, management and innovation in sustainable tourism</b>
<ul style="list-style-type: none"> <li>• <b>Theory and Epistemology of Tourism</b></li> <li>• <b>Theories of Sustainable Development</b></li> <li>• <b>Scientific Methodology Applied to Tourism</b></li> <li>• <b>Thesis Seminar</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Tourism and Hospitality Ethics</b></li> <li>• <b>International Environmental Legal Frameworks</b></li> <li>• <b>Methodologies and Trends of Sustainability</b></li> <li>• <b>Landscape and Tourist Space Theory</b></li> <li>• <b>Indigenous and Traditional Societies and Anthropological Knowledge</b></li> <li>• <b>Models and Case Studies of Management and Innovation in Tourism</b></li> <li>• <b>Natural Resource Management</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Design of Tourism Development Plans and Projects</b></li> <li>• <b>Architecture and Management of Tourist Facilities</b></li> <li>• <b>Recognition and Management in Indigenous Territories and Traditional Communities</b></li> <li>• <b>Development, Innovation and New Products in Sustainable Tourism</b></li> <li>• <b>Biodiversity Management</b></li> <li>• <b>Prevention and Mitigation of Impacts on Tourism</b></li> </ul>

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	<p>Methods and Techniques</p> <ul style="list-style-type: none"> <li>• Impacts of Global Changes in tourism</li> </ul>	
<p><b>4 courses = 12 credits</b></p>	<p>3 courses form a chosen line = 9 credits</p> <p>+</p> <p>3 courses from any of the lines or from a different recognized program, in any combination = 9 credits</p>	

#### 4.2.4 Structure and procedures of the Master's Program

The student will have to complete 10 courses for a total of 30 credits and must work on a master thesis that corresponds to another 30 credits. The courses have to be distributed as follows:

It must approve 4 mandatory common courses (in person). At least 3 elective virtual courses of one of the lines (chosen by the student depending on his/her preference of speciality). At least 3 elective virtual courses of any line (line 1 or line 2) offered by UNA or in another similar recognized program from any other university.

Each mandatory course will have 12 sessions of 4 hours each in person, 5 hours of reading and 2 hours of practice. For a total of 132 hours of activities. Each elective course will have 132 hours of virtual activities, in the model: class of 4 hours, 5 hours of readings and 2 hours of practices. The courses will have 132 hours of activities for each subject for a total of 3 credits each. One credit is equal to 45 hours of activity. At the discretion of the master's coordination, optional courses of 2 credits (90 hours of activities) can be created.

The student should ideally complete the 30 credits in the first year. In the second year the final thesis must be presented and it correspond to the another 30 credits.

A pedagogical practice model can be implemented, in which the master's student assists a professor in his/her classes during an academic period.

Between the 15th and 18th months, after the student's enrollment, the student must present a research progress on the project selected and a writing of the thesis to an examining committee (the rules must be in separate regulations). It will be a draft of the student master's thesis.

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The deadline for completing the master's thesis is 24 months, extendable for another 6 months based on a reasoned request by the student and with the consent of the thesis coordinator.

Each student will be entitled and must have a thesis coordinator.

The student can take courses in other graduate programs and must ensure the validation of the credits by the corresponding UNA office before it is taken.

### **4.3 UWI-CERMES**

It is important that any sustainable tourism curricula adopted in the Caribbean be comprehensive, multidisciplinary, and integrated. The region's tourism product is highly dependent on the natural environment, particularly coastal and marine areas, and as such is acutely sensitive to environmental degradation, natural hazards and climate change. In addition, coastal tourism must also contend with other resource users and industries (e.g. residents, fisheries, energy, and maritime shipping) which may result in conflicts.

Currently the Centre for Resource Management and Environmental Studies (CERMES) at The University of the West Indies, Cave Hill Campus offers a course in Sustainable Tourism in the Coastal Zone as part of its Coastal and Marine Resource Management Stream in its MSc in Natural Resource and Environmental Management. The CERMES MSc seeks to provide graduate students with advanced training in techniques, mechanisms and policies for sustainable use and management of natural resources with emphasis on the Caribbean. The existing sustainable tourism course aims to provide students with information and expose them to resources and experiences through which they will develop analytical and practical skills for the efficient management of coastal resources as part of the tourism product. The course seeks to ensure that students will understand the evolution of tourism and tourism planning and the role tourism plays in national development of the Caribbean; be able to explain and interpret the emergence of sustainable tourism and its use as a strategy for both development and conservation; critically assess the elements of the tourism industry and evaluate possible directions for the future of sustainable tourism in the Caribbean. The course has been offered for several years now, and STOREM presents the opportunity of reviewing and revising the course to ensure that it continues to meet academic best practice.

In addition to revising the existing sustainable course, the intention is to create a new course in tourism and hazard mitigation. The Caribbean region is comprised of a number of small islands and low-lying coastal states, where the major urban areas, the associated infrastructure and key economic sectors are located in areas that are highly vulnerable to the impacts of both natural and technological hazards. In 2017

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Hurricanes Maria and Irma caused significant damage to islands in the Caribbean. The WTTC estimates that the 2017 hurricane season resulted in an estimated loss of 826,100 visitors to the Caribbean, and these visitors would have generated US\$741 million and supported 11,005 jobs. It is anticipated that recovery to previous levels could take up to four years, and if this is the case, the region will miss out on over US\$3 billion over this timeframe (WTTC, 2018).

There is little doubt that providing training in tourism and hazard planning and mitigation would assist tourism practitioners in the Caribbean to better understand how to address the hazards that threaten the sustainability of tourism in the region. The course would focus on natural and human induced hazards and would provide students with knowledge and skills to develop policies and plans for addressing these in the tourism sector. Some of the topics that would be covered would include:

- Caribbean vulnerability to hazards
- Tourism vulnerability to hazards
- Principles of disaster risk reduction
- Strategic interventions for hazard reduction (policy, modelling and forecasting, capacity building, information dissemination).

#### **4.4 UCI**

Tourism is attributed with being responsible for an important part of green-house gas emissions. International travel, especially air travel but also cruise ships, local travel and the emissions for all the logistics related to the supply of the tourism chain cannot be neglected when planning and developing a more sustainable tourism sector.

Currently, technology associated with the 4th Industrial Revolution is significantly modifying the tourism industry. Technology platforms like Airbnb and Uber are allowing for a significant shift from traditional activities such as hotels, taxis and even car rentals. Expedia, Trip Advisor and the other platforms have for the most part reduced travel agencies to just a few, mostly directed to unexperienced or elder tourists. Even lodging options like Celina are erasing the line between work and travel and many millennials are now nomads that travel the world while working online. Self-check-in, passport control and electronic documents are considerably reducing the amount of staff related to the airline industry. The rapid development of blockchain will soon allow for complete traceability and will probably substitute certification, not only in the tourism industry.

On the other hand, planetary collapse is already significantly impacting the planet and rapidly changing conditions for the travel industry. Record high temperatures like the ones seen in Europe, Alaska or India are already taking their toll on visitor numbers but also on the reasons to travel. Other direct impacts are for example

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extreme weather events such as drought or flooding. The hurricane season in the Caribbean is starting early and extending itself longer in the year. Total drought has now been experienced in many large cities like Chennai in India, Sao Paulo in Brazil and Cape Town in South Africa.

Tropical diseases have spread and have severely impacted the tourism industry. Yellow fever, Chikungunya or Zika outbreaks immediately generate cancellations and money reimbursements have caused hotels in Costa Rica to close. The yellow fever outbreaks in eastern Brazil had increased impacts due to government not wanting to display all mechanisms to communicate measures to be taken in order not to affect visitor numbers to the carnival.

Changing climate impacts a wide array of ecosystems and special events. Phrases like “go and see before it disappears” are more and more common in marketing strategies. One example is the travel to Japan to see the cherry-blossoms, which is now unpredictable due to the shift of the flowering season. The massive death of puffins of the northern west coast of North America or the disappearing colonies of penguins in Antarctica or amphibians and many other species in the tropical world is already causing concern. Other recent impacts related to global change is the Sargasso influxes in the Caribbean, which has basically rendered the beaches unusable. Plastics in the ocean is an old problem which has now escalated to unthinkable dimensions and is not only affecting the scenic aspects but also the food industry due to the amount of micro-plastics in seafood.

The list can go on and on, from reduction of fish stocks due to overfishing, destruction of natural areas for the construction of massive resorts, loss of reefs due to fertilizers and pesticides (very often directly from the hotel gardens in front of the reefs), methane decomposition due to wastewater as in Cancún to other aspects like overrun sites due to uncontrolled visitor numbers.

In order to try to manage some of these aspects, the global certification trends in the tourism industry has slowly shifted from hotel and restaurant certifications to site-based certifications. Certification of sustainable destinations are rapidly increasing in popularity.

## **Regenerative Tourism**

UCI has been evolving the concept of regenerative development for over a decade. A holistic development process based on the systems approach that starts by regenerating functional landscapes, fixing carbon in the soils and biomass, increasing biodiversity levels and working together with the inhabitants through co-creation to increase community governance and cooperation to develop local circular economies. Strengthening the spiritual component is of utmost importance. The six main aspects to be contemplated can be looked upon as “layers”. Our focus cannot be the individual “layer” (discipline) but the interaction between them. It is a

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site-based approach that requires true innovative transdisciplinary processes that include:

**a)** The regeneration of functional landscapes, where we produce and conserve, maximizing biodiversity and ecosystem function to guarantee the provision of the basic ecosystem services to sustain life on Earth, including ours. We can achieve this through the use of science and local knowledge, the implementation of the ecosystem approach, nature-based solutions, ecosystem based adaptation, future scenarios and many other available methodologies.

**b)** Social strengthening by community organization and empowerment to co-create solutions for current local challenges, using regenerative cultural design to allow local communities to recognise collaboration as superior to competition, reverse their negative development patterns and enhance the positive ones to cope with adaptation to a changing planet and reconnect with life as a whole (Wahl, 2016). Transformation into active and responsible citizens creates change-makers.

**c)** A new paradigm of regenerative economy striving towards wellbeing and solidarity, going beyond gross domestic product (GDP) while enhancing local economies. We must integrate concepts of the Economy for the Common Good and circular economy, generate added value and value chains at the local level that increase livelihoods for humans and all life forms, based on the circular principles of Nature. The goal is to build healthy human networks that seek cooperation rather than competition and where businesses focus on positive environmental and social outcomes instead of plain profit.

**d)** Conservation and valuation of living culture which is the necessary bond for community life, where local knowledge, values and traditions are shared within family, friends and the community as a whole, giving meaning to these terms, where self-esteem is recovered and enhanced, allowing community pride to facilitate collective action and the true achievement of a harmonious relation.

**e)** Rethinking and redesigning current political structures so they reflect true participatory democracy and inclusiveness, without the influence of money and power and especially fostering long term vision and actions that seek increased livelihoods and happiness and not only gross income. We must strengthen the capacities in youth to assume decision making positions, especially if we want rapid changes in community behavior.

**f)** Fostering a deep spiritual base, ethics, transparency and global well-being to allow humanity to live in peace with itself and Mother Earth. The alliance with the Earth Charter and the Laudato Sí have proven to be transformational for incorporating this component in science, economy, society, culture and politics.

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These principles can (and must) be applied to the tourism industry and this process has become known as regenerative tourism. Camina Sostenible in Chile has been developing this concept ever further in association with UCI. It is still and will remain for many years in a co-creation process. The rapidly changing planetary conditions will need flexible programs in the future.

In terms of environment, regenerative tourism requires any activity to have positive effects in the environment, society and economy. A typical regenerative hotel will invest significant amounts in the regeneration of biodiversity and ecosystem services. Many examples exist but to name one example, Selva Bananito Lodge in Costa Rica dedicates 10% of revenue to maintain and regenerate several hundred hectares which provide water for the city of Limon, the capital of the province. It also runs a program in feline conservation and the fight against deforestation. Rancho Margot is another example. It has promoted the regeneration of biodiversity and community development in its surroundings.

In terms of community development, regenerative tourism should provide opportunities for local social, cultural and economic development. Food should be purchased locally as much as possible, offering opportunities for local farmers and the value chain. Beyond providing direct jobs, it should engage in the promotion of entrepreneurs and start-ups to outsource services.

In terms of visitor experience, it goes beyond sightseeing, birdwatching or nature activities. It provides opportunities for deeper personal experiences that allow the visitor to experience a personal change, reconnecting him to the natural and cultural environment. Often, transformational experiences like forest bathing, meditation, solitary retreats and many other activities are offered.

The main idea is that regenerative tourism will connect people from around the world to the transformational process required for humanity to change its current destructive path and will allow for a transformational change in each visitor.

#### **4.4.1 Specific topics to enrich the UCI master's degree program on sustainable tourism**

Based on this, The UCI proposed to update its curricula with the following:

- Planetary collapse management
- Sustainable destinations
- Tourism management in the context of global change (diseases, disasters, climate variability, scarcity, etc.)
- 4th Industrial Revolution and tourism (blockchain / life cycle analysis among others)

*TASK 2.1: Defining pathways objectives, learning outcomes, and career perspective*



## Regenerative Tourism

The development of those topics will be operationalised through different competencies as:

Anticipate emerging and changing conditions of the global / local context that affect tourism (modalities, permanence ...)

- Characteristics of global change
- Approach to planetary limits and ecological footprint
- Climate change and Anthropocene interdependence
- Scenarios

Manage the risk associated with global change.

- Nature based solutions
- Adaptation measures, resilience
- Uncertainty Management

Design of services and experiences that produce a positive balance in the different dimensions of development.

- Regeneration (Positive Impacts) vs Compensation
- Generate well-being for the community and the tourist

Facilitate planning processes and development of tourist destinations at territorial level.

- Landscape scale planning

Develop local development processes - added value and chains

- Entrepreneurships
- Construction of networks and learning communities
- Ecological labeling - Life cycle analysis

Integrate diverse knowledge and new technologies including ICTs

- Innovation and creativity
- Knowledge management, systematization

Understand the social, economic and ecological dynamics of the territory.

- Alternative economic approaches

Comprehensively understand the dimensions and interrelations of regenerative development.

- Pillars of regenerative development

*TASK 2.1: Defining pathways objectives, learning outcomes, and career perspective*



Co-funded by the  
Erasmus+ Programme  
of the European Union



- Principles and methodological framework for regenerative development



## 4.5 EAFIT

STOREM has provided the Escuela de Administración, Finanzas e Instituto Tecnológico (EAFIT) with an opportunity to develop two (2) specific courses that will enrich the existing curricula of their University's Master's program in Earth Sciences. In order to ensure agreement with the Master's program overall mission, objectives, learning outcomes, and career perspectives (which have previously been established by the program) the table below presents this program-level information together with that of the 2 new courses. The 2 new courses that are planned are titled:

1. Watershed Management for Environmental Protection
2. Coastal Management for Sustainable Beach Tourism

**Table 4: EAFIT** - alignment of two new courses with existing master's program in Earth Sciences

	Mission	Objectives	Learning Outcomes
<b>Master's program in Earth Sciences</b>	To train graduates with high level knowledge in the areas of Earth Sciences, skills in basic, advanced and applied research, the formulation and implementation of projects in the field of the public and private sectors, and a true environmental culture that allows them to contribute to solutions to the problems that affect the natural environment.	<ol style="list-style-type: none"> <li>1) Create a high level of knowledge in the fundamental areas of Earth Sciences, including Marine-Coastal Sciences</li> <li>2) Develop capacities in aspects of Earth Sciences that are national development priorities.</li> <li>3) Implement projects that directly respond to the needs of the public and private sectors of Colombia.</li> <li>4) Create consciousness and capacities with basic and applied science towards the resolution of significant issues in the use of national territory and resources.</li> <li>5) Strengthen other related undergraduate and specialization programs at EAFIT.</li> <li>6) Strengthen research and development programs in the area of Earth Sciences.</li> <li>7) Strengthen cooperation agreements with international Master's programs</li> </ol>	<p>The Master in Earth Sciences of the EAFIT University is a professional capable of conducting basic, applied and/or diagnostic research of the components of the Earth System, through a multi-tool approach, database management and/or modeling of the past, present and/or future conditions, which allows for the generation of relevant scientific knowledge for the country and the region, that serve as a basis for environmentally sustainable decision making in the management of resources and in the light of the related Sustainable Development Goals.</p> <p><u>The training process will allow the student to:</u></p> <ul style="list-style-type: none"> <li>• Develop the capacities of intuition, amazement, scientific analysis and approach to solutions to problems in the area of Earth Sciences.</li> </ul>

*TASK 2.1: Defining pathways objectives, learning outcomes, and career perspective*



	Mission	Objectives	Learning Outcomes
		<p>towards implementing dual degrees in natural and applied sciences.</p> <p>8) Promote applied research projects towards implementing the Sustainable Development Goals.</p>	<ul style="list-style-type: none"> <li>• Have a scientific structure in the formulation and execution of basic or applied research projects.</li> <li>• Have solid knowledge in the fundamental areas of Earth Sciences.</li> <li>• Develop the ability to work in interdisciplinary groups.</li> <li>• Analyze problem situations in their field of study and propose solutions.</li> <li>• Locate and acquire updated international literature in any branch of their specialty.</li> </ul> <p><u>The graduates of the Master's will be professionals of Earth Sciences that:</u></p> <ul style="list-style-type: none"> <li>• Understand the interaction of physical processes as controls of evolution and the current state of the Colombian territory.</li> <li>• Know the implications of climate change on the evolution of Colombian landscapes and their repercussions on society.</li> <li>• Integrate analyses and evaluations on how human factors are affecting the natural and physical systems of the country.</li> <li>• Communicate and socialize the results of their research work, whether basic or applied, for the good of the country and its sustainable development.</li> <li>• Have the critical and academic structure to make high level publications.</li> </ul>
<p><b>New Course #1:</b> Watershed Management for Environmental Protection</p>	<p>To train graduates with up-to-date knowledge on aspects of watershed management, the water continuum approach, applied research skills, and strategies that contribute</p>	<p>1) Create a high level of knowledge on the fundamentals of watershed management and protection, including the water continuum scheme of the interaction between land and coastal zone.</p>	<p>The course's learning outcome is a graduate with in-depth knowledge on the issues and processes of Colombian watersheds, from the perspectives of scientific research and decision making in the management of resources, and with the ability to conduct basic, applied and/or</p>



	Mission	Objectives	Learning Outcomes
	<p>solutions to issues of environmental protection and sustainable territorial development.</p>	<p>2) Generate consciousness of related sustainable development priorities and the national and regional level. 3) Develop projects that directly respond to the related needs of the public and private sectors. 4) Build capacities in basic and applied science towards the resolution of significant issues in watershed resource sustainability.</p>	<p>diagnostic research of watersheds combining skills with tools, databases and/or modeling.</p> <p><u>The training process will provide the student with:</u></p> <ul style="list-style-type: none"> <li>• Understanding of the scientific structure applied in the formulation and execution of basic or applied research projects.</li> <li>• Current knowledge in the fundamental areas of Watershed Management.</li> <li>• Introduce the main data analysis and applied tools to recognize and mitigate human induced impacts on the land-ocean interaction in the coastal zone.</li> <li>• Ability to work in interdisciplinary groups, mainly those related to sustainable development, e.g. social and economic sciences.</li> <li>• Understanding the interactions between physical processes and human development in the water continuum as related to the current state of the Colombian territory.</li> <li>• Knowledge on the implications of climate change on the evolution of Colombian landscapes and their repercussions on society.</li> <li>• Capacity for analyses and assessments of human impacts on watersheds.</li> <li>• Solid structure on formulating applied projects for stakeholders, especially to encourage the public and private sectors in watersheds to rely on science for decision making.</li> </ul>
<p><b><u>New Course #2:</u></b> Coastal Management for Sustainable Beach Tourism</p>	<p>To train graduates with up-to-date knowledge on aspects of coastal management with attention to linkages between coastal</p>	<p>1) Create a high level of knowledge on the fundamentals of coastal management and protection, with attention to coastal morphodynamics and human interventions.</p>	<p>The course's learning outcome is a graduate with in-depth knowledge on the issues and processes of Colombian coastal areas, from the perspectives of scientific research and decision making in the management of</p>

*TASK 2.1: Defining pathways objectives, learning outcomes, and career perspective*



	Mission	Objectives	Learning Outcomes
	<p>morphodynamics and human interventions, applied research skills, and strategies that contribute solutions to issues of coastal degradation for sustainable beach tourism.</p>	<p>2) Generate consciousness of sustainable development priorities in Colombian coastal zones at national and regional levels.</p> <p>3) Develop projects that directly respond to the related needs of the public and private sectors.</p> <p>4) Build capacities in basic and applied science towards the resolution of issues in the sustainability of coastal resources involved in beach tourism.</p>	<p>resources, and with the ability to conduct basic, applied and/or diagnostic research of coastal zones combining skills with tools, databases and/or modeling.</p> <p><u>The training process will provide the student with:</u></p> <ul style="list-style-type: none"> <li>• Understanding of the scientific structure applied in the formulation and execution of basic or applied research projects.</li> <li>• Current knowledge in the fundamental areas of Coastal Management.</li> <li>• Scientific skills to assess coastal evolution at several temporal and spatial scales, at different morphodynamic settings, and with attention to human interventions.</li> <li>• Ability to work in interdisciplinary groups, mainly those related to sustainable development, e.g. social and economic sciences.</li> <li>• Understanding the interactions between physical processes and human development in a morphodynamic framework, as related to the current state of coastal zones in Colombia.</li> <li>• Knowledge on the implications of climate change and human development in Colombian coastal zones and their repercussions on society and the environment.</li> <li>• Capacity for analyses and assessments of human impacts on coastal zones.</li> <li>• Solid structure on formulating applied projects for stakeholders, specially to encourage public and private sectors in coastal zones to rely on science for decision making.</li> </ul>



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