



**Online vocational training
course on maintenance of turf
sport fields**

DELIVERABLE

D2.3

**D2.3.- REPORT WITH THE VET
CURRICULUM CONTENTS**

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1. – INTRODUCTION

This document represents deliverable *D2.3.- Report with the VET Curriculum contents* of work package *WP2.- Development, integration and adaptation of training content and VET Curricula* of the European project TELETURF. This project aims to generate a learning offer addressed to professionals to complement the learning outcomes of current formal programmes with training in the management of the maintenance of sport facilities of artificial turf.

This report contains information relating the online course that will be implemented in this project. The main resources, online learning methodology and course structure has been proposed. Finally, the contents have been organized in different modules and sessions, describing the information that students will receive in each one, as well as the main objectives of them.

2. – LEARNING METHODOLOGY

2.1. – Course general resources section

The student will find the following general resources for the course:

- **A bulletin board and news:** where the facilitator reminds students important dates for the course, and any news of interest.
- **The forum of the course:** with the participation of the teacher and the facilitator of the course to answer all questions and inquiries from students.
- **Library:** a collection of resources selected by the teacher of the course.
- **Utilities:** selection of programs that may require the student to follow the course (unzip, PDF and documents viewers, etc.).

2.2. – ‘Before you begin’ section

This section is designed for students to review it before starting their study on campus. Section consists the following:

- **FAQ:** is a collection of answers to questions most often raised by most students on the operation of the online platform.
- **Teaching Guide:** a document specifically developed for each course which contains all the information needed by the students to get the most out of their efforts. This section is organized as follows: *introduction, objectives, agenda, timing, methodology, resources, teaching and assessment team.*

2.3. – Course structure

The course is divided into different modules. Each module is divided into sessions which correspond to learning units that will have a duration of 2 or 3 hours. *Figure 1***Error! No se encuentra el origen de la referencia.** shows a scheme summarizing the course structure.

Each work session starts with a short section in which its main objectives are stated. This section is followed by the corresponding didactic unit and ends with a summary of the key ideas learned during the session.

By the end of each session, a reinforcement activity must be completed by the student using the online platform. This activity consists of an exercise automatically corrected by the system and the results are reported to both, the student and the course facilitator.

When the student has finished all the sessions of the module, he or she must complete the self-evaluation test. The student must pass the tests corresponding to all the modules before doing the final examination which will be necessary for the student to get the corresponding qualifications or certificate.

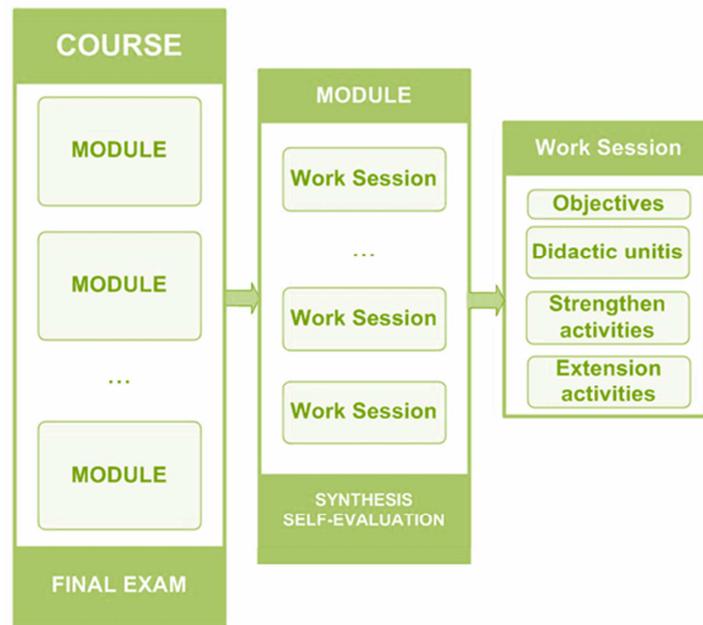


Figure 1.- Online course structure.

The structure of a working session will be the following one:

- **To begin:** This is a brief presentation (or summary) to introduce the student about the main topics of the session. This is normally a plain text with ideas, thoughts, etc. It may also include activities, links or external documents to provoke a student for reflexion. The previous ideas can also have a specific question, and the answer to this question can be shared with the other students and provoke a debate into the course forum.
- **Teaching unit:** a downloadable PDF document containing the main topics to study. It is divided into:
 - **Objectives:** are the learning objectives of the **working sessions**,
 - **Topics:** are the main contents developed by the teacher,
 - **Key ideas:** they are the fundamental concepts emphasized by the teacher to be discussed in the session.
- **Activities:** Each work session includes a series of exercises for the student to consolidate the knowledge acquired by putting them into practice.

The general structure of each topic will include some of the following **pedagogical resources**:

- **Bibliography and references.** Each unit will include both references cited into the text and additional bibliography recommended to expand the reading. The online structure of the course will permit that the citing is dynamic and each cite can lead to its reference.
- **Images and illustrations.** All the contents will be widely improved and explained with images, tables and graphs. The images will allow not only to explain and expand some concepts treated in the text, but also to ease the reading and insert pauses in the process of studying.
- **Insertions.** To avoid plain text and transform the linear reading into more active reading, the text in each unit may have specific insertions with the purpose of reinforce the content. The main insertions considered for the course are the following ones:

- **Concept.** Important concepts or cites.
- **Examples.**
- **Remark boxes.** Useful to emphasize or summarize some important concept that you have previously developed.
- **Enlargement of concepts.** Additional information, that is not strictly necessary, but that can enlarge the knowledge about one particular topic.

All working sessions have the same structure of content, except the last session of each module, the session named "to finish". This session can have the following items:

- **To learn more:** a space to expand knowledge about the topics covered in the module.
- **Glossary:** a space where the student can study the most important concepts explained during the module.
- **The forum of key ideas:** in this forum the student may present to the rest of the group the most important aspects learnt during the module in order to summarize them and obtain a list of key ideas.
- **Self-assessment questionnaire:** the student must pass an assessment or fulfil a questionnaire to move to the next module. The student can undertake the assessment as many times as he or she wants. The system will display their successes and mistakes and give information about what content should be reviewed based on their answers.
- **Multimedia materials:** a collection of multimedia resources which show in graphical way the application, in real context, of the contents described during the module.

When the student starts the online course, he or she will obtain help from two external experts:

- **Academic tutors:** They are members of the organizations involved in the creation of the learning contents, and solve academic doubts or questions from participants in the course. In addition, they have a dynamic participation in the different communication channels available for the participants: forum, conversations and electronic mail. Their mission is to create a collaborative learning environment, offering the participants support and orientation.
- **Facilitator:** Acts as a link between the students and the tutors and technicians of the course. Each partner will appoint a facilitator who will communicate with the participants in the course in their native language and with IBV in English. The facilitator guides the participants along the development of the course, tracking their advance and providing diverse information (welcome message, instructions, reminders, qualifications, etc.).

After performing the e-learning course, the student has to pass a final examination in order to obtain the Certificate of Completion of the course.

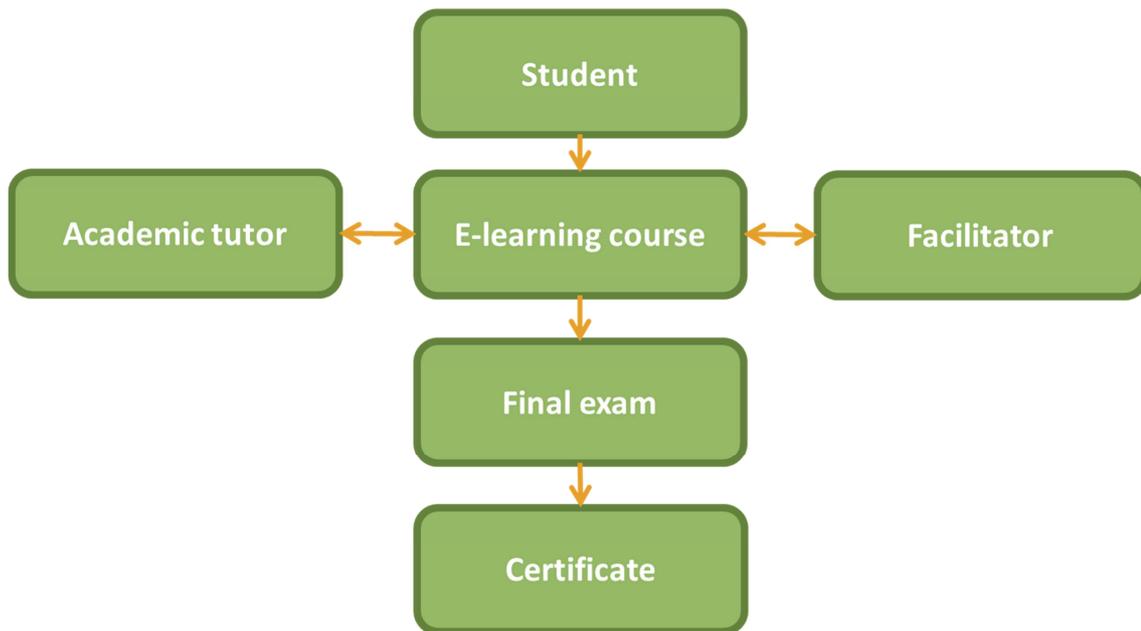


Figure 2.- Overview of the online course

2.4. – Implementation of the online course

2.4.1.- Access to the online course

The application will be placed on the telematic platform of the IBV (*Virtual Campus IBV* <https://campus.ibv.org>). In order to access the online course, the user must identify him- or herself introducing the passwords that will be provided after their enrolment in the course.

2.4.2.- Didactic units

According to the defined modules and sessions, the didactical material will be compiled and classified. Each session will be developed using the LESSON Module of Moodle.

This resource presents a series of HTML pages to the student who is usually asked to make some sort of choice underneath the content area. The choice will send them to a specific page in the lesson. In a Lesson page's simplest form, the student can select a continue button at the bottom of the page, which will send him or her to the next page in the Lesson.

Each session will be presented in two ways:

- Lesson Module.
- PDF file which contains a summary of the contents presented in the Lesson Module.

2.4.3.- Reinforcement activities

The different activities included in each work session will be included and programmed within the online application so that they are automatically corrected, and as a result the correct answers are displayed. These activities consist of several questions in which the student must complete multiple choice tests, match images with the corresponding definitions, etc.

2.4.4.- Self-evaluation tests

Before finishing a module, a self-evaluation test must be performed before starting the next module. The self-evaluation tests will be normally questions of 3 or 4 answers, where the user

must select the correct one. When finished the test, the application will correct it automatically and will show the mark obtained.

2.4.5.- Final examination

After finishing every module, the last step is to take the final examination. It will consist of questions for every module, where the user must select the correct answer. The final examination will not be available to the user at any time, but it must be done only during one day (the date of the final examination will be stated before starting the online course). The user will perform it at home, but he or she will have only 45 minutes to complete it. That means that the user will have to study for passing it if he or she wants to complete it before finishing in time.

2.4.6.- Duration of the online course

The time needed to complete the entire online course has been estimated in 40 hours; to be performed during a period of time of two months. A calendar will be prepared as a help for the users to finish the course on time. Depending on the extension and number of sessions of each module, the calendar will suggest the number of days needed to study them. As explained in the previous section, the final examination will be performed the last day of the course.

2.4.7.- Grades

A final mark will be calculated from the results of the final examination, as well as from the self-evaluation tests and reinforcement activities of each module.

The following points summarize the grading system:

- The 60% of the global grade corresponds to the result of the final exam, and the remaining 40% corresponds to the score obtained from the seven modules.
- According to the importance of the different modules, each one has a different weight:
 - Module 1: 10%
 - Module 2: 10%
 - Module 3: 10%
 - Module 4: 15%
 - Module 5: 20%
 - Module 6: 25%
 - Module 7: 10%
- The mark obtained for each module is calculated as the weighted sum of the marks obtained in the activity and the self-evaluation test (both are graded from 0 to 10). These weights are:
 - Reinforcement activities: 40%
 - Self-evaluation test: 60%

The results of the exam and self-evaluation tests are graded from 0 to 10. The contribution of each mark to the global grade is calculated by multiplying this by the assigned weight.

2.4.8.- Course certificate

After doing all the modules with their respective activities and self-evaluation tests, and passing the final exam, the user will get a Certificate of Completion of the course.

3. – VET CURRICULUM

The proposal of modules and sessions of the complete online course is shown below:

MODULE 1: INTRODUCTION AND CONSTRUCTIVE ELEMENTS OF ARTIFICIAL TURF SURFACES

- Session 1: Introduction to artificial turf
- Session 2: Constructive elements of artificial turf surfaces

MODULE 2: BIOMECHANICAL ASPECTS OF ARTIFICIAL TURF

- Session 1: Introduction to biomechanics
- Session 2: Introduction to biomechanical measurement technics

MODULE 3: EVALUATION OF THE TECHNICAL FEATURES OF ARTIFICIAL TURF SPORT FIELDS

- Session 1: Technical features of the field
- Session 2: Technical features of the support layer

MODULE 4: EVALUATION OF THE SPORT PERFORMANCE FEATURES OF ARTIFICIAL TURF SPORT FIELDS

- Session 1: Interaction between the player and the pavement
- Session 2: Interaction between the ball and the pavement

MODULE 5: FIFA REGULATIONS

- Session 1: Homologation of artificial turf sport fields

MODULE 6: MAINTENANCE OF TURF FIELDS

- Session 1: Recommendations for the maintenance of artificial turf sport fields

MODULE 7: MANAGEMENT WEB TOOL

- Session 1: Web tool for the management of maintenance of artificial turf

MODULE 1: INTRODUCTION AND CONSTRUCTIVE ELEMENTS OF ARTIFICIAL TURF SURFACES

SESSION 1: INTRODUCTION TO ARTIFICIAL TURF

Topics

In this introductory session, the student is going to know the basics concepts and characteristics of the artificial turf sport fields and a brief introduction to its history and evolution over the years. Furthermore, pain, illness and injuries usually suffered by the users of turf fields related to the artificial turf itself will be introduced.

Objectives

- ✓ *To know the main causes why the artificial turf sport fields are becoming as popular in the latest years.*
- ✓ *To know the evolution of the artificial turf over the years that led to its acceptance as an adequate surface by the main regulators, such as FIFA, UEFA and the national associations from the different countries.*

SESSION 2: CONSTRUCTIVE ELEMENTS OF ARTIFICIAL TURF SURFACES

Topics

In this session, the student is going to learn different layers and elements present in the artificial turf sport fields, as well as its characteristics, strengths and weaknesses depending on the use of the field.

Objectives

- ✓ *To learn what the main materials used in the construction of artificial turf sport fields are.*
- ✓ *To study the typical structure of artificial turf sport fields: its composition and the function of each element.*

MODULE 2: BIOMECHANICAL ASPECTS OF ARTIFICIAL TURF

SESSION 1: INTRODUCTION TO BIOMECHANICS

Topics

In this starting session of the biomechanical module, the student is going to learn the definition of the main biomechanical aspects and how they affect the players of artificial turf sport fields.

Objectives

- ✓ *To know the main biomechanical aspects that have to be considered in order to ensure that the field is safe for the sport usage.*

SESSION 2: INTRODUCTION TO BIOMECHANICAL MEASUREMENT TECHNICS

Topics

In this session, the main technics to measure the biomechanical aspects introduced in the previous session are explained. The student will acquire the knowledge about the proper selection of the technics depending on the characteristics of the movement that has to be analysed.

Objectives

- ✓ *To get an overview of the measurement instruments and technics used to analyse the main sportive gestures.*

MODULE 3: EVALUATION OF THE TECHNICAL FEATURES OF ARTIFICIAL TURF SPORT FIELDS

SESSION 1: TECHNICAL FEATURES OF THE FIELD

Topics

This session addresses the main features required on artificial turf sport fields in terms of performance and durability. The student is going to learn the techniques used to measure the characteristics of the artificial turf along with the recommendations about its maintenance.

Objectives

- ✓ *To know which properties have to be examined to evaluate the performance of the field's surface over the years depending on the environment and the use of the field.*
- ✓ *To learn the main procedures to measure the resistance and durability of the artificial turf.*
- ✓ *To study what affects the pavement filling materials in order to provide safety and high performance to the player, as well as to ensure greater durability of the pavement.*

SESSION 2: TECHNICAL FEATURES OF THE SUPPORT LAYER

Topics

In this session, the student is going to know the parameters that need to be controlled during the construction of the field, as well as the techniques and trials commonly used to evaluate those parameters.

Objectives

- ✓ *To know the parameters of the supportive layer that have to be controlled during the installation of the artificial turf surface.*
- ✓ *To study the techniques and procedures necessary to evaluate those parameters.*

MODULE 4: EVALUATION OF THE SPORT PERFORMANCE FEATURES OF ARTIFICIAL TURF SPORT FIELDS

SESSION 1: INTERACTION BETWEEN THE PLAYER AND THE ARTIFICIAL TURF SURFACE

Topics

This session is focused on the interaction between the player and surface of the field. The student is going to learn the standard trials to evaluate the parameters that characterize that interaction, as well as the data obtained from those trials and their influence over the performance of the player.

Objectives

- ✓ *To study the procedure and equipment used to evaluate each parameter of the interaction between the player and the artificial turf surface.*
- ✓ *To understand how to process the data obtained from those trials and their effect over the player.*

SESSION 2: INTERACTION BETWEEN THE BALL AND THE PAVEMENT

Topics

Similar to the previous session, the aim of this part of the course is to know and understand the main procedures used to evaluate the interaction between the ball and the pavement, and the effect on the performance of the ball on the field.

Objectives

- ✓ *To study the procedure and equipment used to evaluate each parameter of the interaction between the ball and the artificial turf surface.*
- ✓ *To understand how to process the data obtained from those trials and their effect over the performance of the ball.*

MODULE 5: FIFA regulations

SESSION 1: HOMOLOGATION OF ARTIFICIAL TURF SPORT FIELDS

Topics

This session examines the FIFA regulation, which states the criteria to certify that a field is suitable to host international football matches.

Objectives

- ✓ *To learn the procedure that has to be followed to obtain the FIFA official certification.*
- ✓ *To know the main characteristics and parameters required to obtain that certification.*

MODULE 6: MAINTENANCE OF ARTIFICIAL TURF SPORT FIELDS

SESSION 1: RECOMMENDATIONS FOR THE MAINTENANCE OF ARTIFICIAL TURF SPORT FIELDS

Topics

In this session the student is going to learn the recommended maintenance operations that have to be performed on a regular basis to ensure the proper conditions of the field, as well as to repair the field once its conditions are no longer suitable for its usage.

Objectives

- ✓ *To know the main problems and defects of the constructive components of artificial turf fields: Backing, fibre, filling, irrigation and drainage, as well as the perimeter areas.*
- ✓ *To learn the regular maintenance operations to be performed by managers of maintenance of artificial turf sport facilities: brushing, surface cleaning, filling specific areas, periodic review of constructing elements, etc.*
- ✓ *To learn also the specific maintenance operations to be subcontracted to specialized maintenance companies, such as unpacking, filling, repairing joints, chemical weeding, controlling sports properties, etc.*
- ✓ *To know the frequency of the different maintenance operations.*

MODULE 7: MANAGEMENT WEB TOOL

SESSION 1: WEB TOOL FOR THE MANAGEMENT OF MAINTENANCE OF ARTIFICIAL TURF

Topics

In this session the student is going to know a web tool for planning and control of the maintenance tasks for artificial turf sport fields.

Objectives

- ✓ *To get familiar with the web tool for the management of maintenance.*
- ✓ *To know the main features of the web tool and how to manage them.*

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