



**INGA 3D - Creative transfer of competence in 3D footwear  
CAD to VET professionals**

**LLP-LdV-ToI/2013-RO-024**

**3D Footwear Computer Aided Design**

# **Handbook**

**Module IV**

**3D CAD - APPLICATIONS TO FASHIONABLE  
FOOTWEAR**

## Course introduction and teaching methodology

With this course you will learn how to use the footwear design software “Icad3D+”, which will help you design and create virtual footwear models, from the preparation of the digital last to the virtual rendering of the finished model.

This is a blended learning course that involves digital and physical teaching resources.

The core of the course is intended for face-to-face training and implies two basic requirements: CAD software / class with computers with the Icad3d+ software installed, and Internet connection to access the Online Learning Platform, where the training material is hosted.

The course is structured in Modules, so it can be customised by the trainees according to their training needs. It is split into four Modules, which in turn are subdivided into Units and Lessons. Please refer to the tables of contents of each Module.

This course has been conceived to be taught using the computer as a teaching means. The contents are expressed in text and image format, but there is no audio associated to them.

Knowledge transfer is based on slide presentations that provide step-by-step explanations (using text and static images) on how to use each of the software functions. To improve the knowledge of the theoretical-practical concepts, the slides are complemented by illustrative videos that show moving images of the theoretical content presented in the slides, in a fast, continuous and purely practical way. Each lesson has a multiple-choice test to assess the trainee’s learning.

## Recommendations for effective learning

- Access the lessons available from the Online Learning Platform (slide presentations), read the texts carefully and see the images on them.
- After reading each lesson, watch the associated videos to improve your understanding of the theoretical-practical concepts. The videos do not contain explanations; they are just a dynamic-visual complement to the learning contents presented on the slides.
- Access the assessment test when you think you have learnt the concepts.
- Practice the knowledge learnt using the Icad3D+ software whenever possible, to promote the development of the skills and competences pursued in this course.
- Make questions to your tutor/trainer to clarify possible doubts that may arise during the learning process.

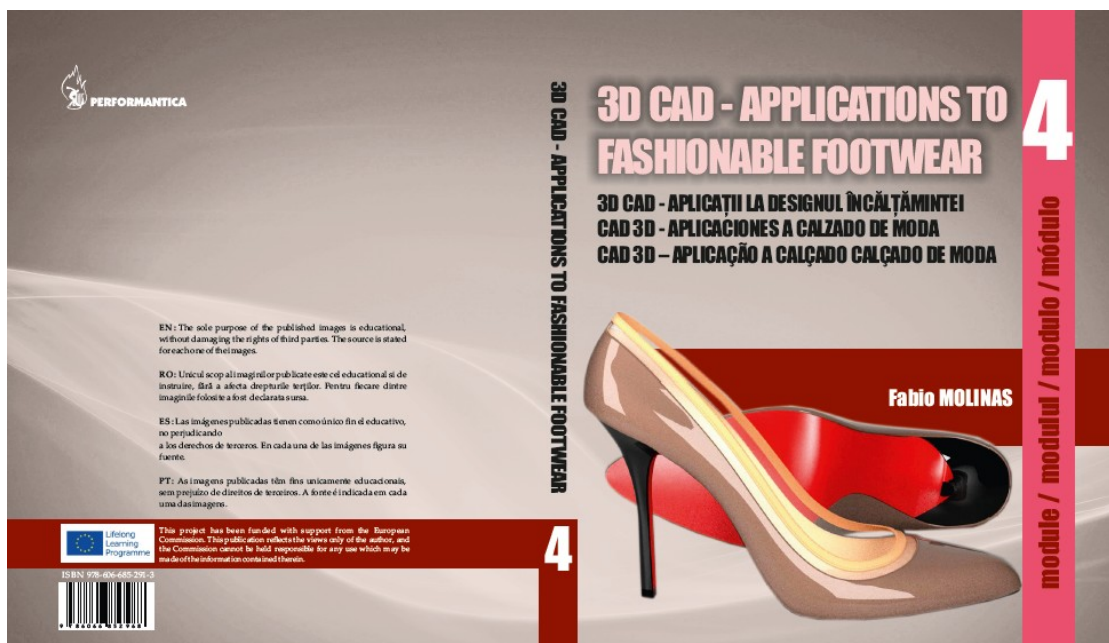
## Description of Module IV

Module IV is dedicated to professionals with special interest for fashionable footwear. Its main goal is to acquire comprehensive knowledge of all aspects surrounding the launch of footwear collections from idea to production. The main objectives of this module are:

- to apply 3D CAD technology powered by Icad 3D+ software for fashionable footwear through collection development;
- to practice the 3D modelling process to a range of different styles, characteristics and features which are compatible with design specifications of the fashionable footwear;
- to design footwear collections mainly focused on operating with various materials, footwear components, trimmings and ornamentations.

Each trainee has to study both the theoretical content of the lessons and the available resources which enrich each unit. The next step in progressing with learning of this module is to perform practical activities with Icad3d+software. Exercises will be performed related to the theory developed in the first part of each unit using a previously defined collection, this allows to have a general overview about the basic models that a Shoe Design collection has to have. Students will develop 3D virtual models along the same style but adding also his/her own creativity.

## Cover page



## Authorship and COPYRIGHT

**Editura PERFORMANTICA**  
Institutul Național de Inventică, Iași  
Iași, Campusul Universitar "Tudor Vladimirescu",  
Corp T24, Etaj 1, CP 2002, OP 10, Iasi  
Tel/fax: 0232-214763  
[www.inventica.org.ro](http://www.inventica.org.ro)

**Descrierea CIP a Bibliotecii Naționale a României**

**FABIO MOLINAS**  
**3D CAD - APPLICATIONS TO FASHIONABLE**  
**FOOTWEAR/ Fabio Molinas**  
- Iași : Performantica, 2015

ISBN: 978-606-685-291-3

ISBN Module 3: 978-606-685-296-8

**Referenți științifici:**

Prof. univ. dr. Carmen Loghin  
Conf. univ. dr. Mariana Ursache

**Consilier editorial:**

Prof. univ. dr. Traian D. Stănculescu

**Secretar editorial:**

Octav Păuneț

**Machetare:**

Carmen Tiță

**EDITURĂ ACREDITATĂ DE CNCIS BUCUREȘTI, 1142/30.06.2003**

Copyright © 2015

Toate drepturile asupra acestei ediții sunt rezervate autorilor

## CONTENTS / CUPRINS

<b>UNIT 1</b>	<b>4</b>
Lesson 1.1. Basic Footwear Collection	5
Lesson 2.1. Structure of Footwear Collection	26
Resource 1.1. Designing a predefined model of Pumps through Icad 3D+	44
Resource 1.2. Designing a predefined model of Wedge through Icad3D+	77
Resource 1.3. Designing a predefined model of Wingtips through Icad 3D+	96
<b>UNIT 2</b>	<b>113</b>
Lesson 2.1. Footwear Components-Outsoles	114
Lesson 2.2. Footwear Components-Heels and Platforms	134
Resource 2.1. Designing a predefined model of footwear components through Icad3D+ : Heels,platforms and outsoles	150
<b>UNIT 3</b>	<b>178</b>
Lesson 3.1. Trimming and Ornamentation	179
Lesson 3.2. Materials	190
Resource 3.1. Designing predefined trimmings, ornamentations and materials through Icad3D+	209
<b>CAPITOLUL 1</b>	<b>4</b>
Lección 1.1. Principiile unei colecții de încălțăminte	5
Lección 2.1. Structura unei colecții de încălțăminte	26
Resursa 1.1. Proiectarea unui model de pantofi tip Pumps utilizând Icad3D+	44
Resursa 1.2. Proiectarea unui model de Sandale utilizând Icad3D+	77
Resursa 1.3. Proiectarea unui model de pantofi tip Wingtips utilizând Icad3D+	96
<b>CAPITOLUL 2</b>	<b>113</b>
Lección 2.1. Componente ale încălțăminteii-tălpi	114
Lección 2.2. Componente ale încălțăminteii-tocuri și platforme	134
Resursa 2.1. Proiectarea componentelor pentru încălțăminte utilizând Icad3D+ : tocuri, platforme și tălpi	150
<b>CAPITOLUL 3</b>	<b>178</b>
Lección 3.1. Dantelarea și Ornamentarea	179
Lección 3.2. Materiale	190
Resursa 3.1. Aplicarea dantelărilor, ornamentelor și materialelor utilizând Icad3D+	209

<b>UNIDAD 1</b>	<b>4</b>
Lección 1.1. Colección básica de calzado	5
Lección 2.1. Estructura de una colección de calzado	26
Recurso 1.1. Diseño de un modelo de salón predefinido con Icad3D+	44
Recurso 1.2. Diseño de un modelo de sandalia predefinido con Icad3D+	77
Recurso 1.3. Diseño de un de zapato inglés predefinido con Icad3D+	96
<b>UNIDAD 2</b>	<b>113</b>
Lección 2.1. Componentes para el calzado - Suelas	114
Lección 2.2. Componentes para el calzado - Tacones y plataformas	134
Recurso 2.1. Diseño de modelos predefinidos de componentes del calzado a través Icad3D+: Tacones, plataformas y pisos	150
<b>UNIDAD 3</b>	<b>178</b>
Lección 3.1 Adornos y decoraciones	179
Lección 3.2 Materiales	190
Recurso 3.1. Diseño de adornos, decoraciones y aplicación de materiales a través Icad3D+: Salones, sandalias y zapatos de caballero	209

<b>UNIDADE 1</b>	<b>4</b>
Lição 1.1. Coleção básica de calçado	5
Lição 1.2. Estrutura de uma coleção de calçado	26
Recurso 1.1. Desenho de um modelo decotado predefinido com Icad3D+	44
Recurso 1.2. Desenho de um modelo de sandália predefinido com Icad3D+	77
Recurso 1.3. Desenho de um sapato Inglês predefinido com Icad3D+	96
<b>UNIDADE 2</b>	<b>113</b>
Lição 2.1. Componentes para calçado - Solas	114
Lição 2.2. Componentes para calçado - Tacões e plataformas	134
Recurso 2.1. Desenho de modelos pré-definidos de componentes para calçado com Icad3D+: tacões, plataformas e solas.	150
<b>UNIDADE 3</b>	<b>178</b>
Lição 3.1 Adornos e decorações	179
Lição 3.2 Materiais	190
Recurso 3.1. Desenho de adornos, decorações e aplicação de materiais com o Icad3D+: Decotados de senhora, sandálias e sapatos masculinos	209