MOBILITY FRIENDS TRAINING CENTER • COURSE PROGRAM

STEM AND TECHNOLOGICAL INNOVATION

3D Modeling and Printing

RHINOCEROS 3D: INTRODUCTION TO 3D MODELING

Your Mobility Partner

PIC Number: 948037649 | **Organisation ID:** E10207576

COURSE OVERVIEW

This course offers a practical and comprehensive introduction to Rhinoceros 3D, one of the leading software tools for 3D modeling and design. Throughout the course, participants will learn the fundamental concepts and techniques needed to create, edit, and manage 3D models effectively. Starting from basic commands and tools, the course guides learners through hands-on exercises to build confidence and develop essential skills. By the end of the program, participants will be able to create simple 3D models suitable for design, architecture, engineering, or artistic projects. This course is perfect for beginners seeking a solid foundation in digital 3D modeling using Rhinoceros.

TARGET AUDIENCE

This course is designed for individuals who are new to 3D modeling and want to learn how to use Rhinoceros 3D from the ground up. It is ideal for students, professionals, and enthusiasts from various fields such as design, architecture, engineering, and art who wish to gain basic skills to create digital projects. It is also suitable for anyone looking for a practical introduction to the software for personal, educational, or professional purposes.

REQUIREMENTS

To take part in the course, participants must meet the following requirements:

- Have at least a B1 level of English (independent user);
- Complete and submit the registration form before the start of the training;
- Bring a laptop or tablet to use during the sessions;
- Commit to active participation and attend at least 80% of the course.

COURSE OBJECTIVES

The objectives of the course are:

- Understand the basic interface and navigation of Rhinoceros 3D.
- Use fundamental tools to create and edit 3D shapes and models.
- Apply essential commands for modeling tasks such as drawing curves, surfaces, and solids.
- Organize and manage 3D objects within the software environment.
- Develop simple 3D models for various applications including design, architecture, and art.
- Export and prepare 3D models for further use in other software or for prototyping.

CONTACTS AND REGISTRATION

For registrations, additional information, or budget requests, please contact our team by email at trainingcourses@mobilityfriends.org or visit our website at www.mobilityfriends.org .

LEARNING OUTCOMES

Upon successful completion of this course, learners will be able to:

1. Navigate the Rhinoceros 3D interface with ease.
2. Create basic 2D sketches and convert them into 3D models.
3. Use key modeling tools to build and modify curves, surfaces, and solids.
4. Manage layers and organize objects effectively within the workspace.
5. Apply simple transformations such as move, scale, and rotate.
6. Save, export, and share 3D models in common file formats.
7. Understand basic principles of 3D modeling workflows in Rhinoceros.
8. Complete practical projects that demonstrate fundamental modeling skills.

METHODOLOGY

The course is structured around a rigorous methodology that combines theoretical exposition, practical work, and applied demonstrations. This approach ensures a thorough understanding of the subject matter and its direct application in real-world contexts.

Theoretical sessions provide essential foundations, while practical work and demonstrations facilitate the development of technical skills and familiarity with the specific tools and procedures relevant to the course.

Continuous monitoring through individualized feedback allows for tracking learners' progress and ensures the achievement of the set objectives, preparing participants to face professional challenges with competence and precision.

ASSESSMENT

Assessment is carried out continuously throughout the course, using a holistic and learner-centered approach that reflects both participation and performance. Each participant is evaluated based on their overall engagement, regular attendance, punctuality, interest in the topics covered, ability to apply knowledge during practical tasks, and interaction with peers in individual and group activities.

The evaluation process includes a variety of classroom-based tasks (oral and written), short daily assignments, role-plays, and simulations. Trainers provide ongoing, individualized feedback to support progress and encourage active learning.

A Certificate of Participation is awarded to participants who attend at least 80% of the sessions and demonstrate consistent involvement and commitment during the training.

DURATION

The standard duration of our course is 20 hours (5 days), designed to ensure comprehensive and effective learning. However, this duration can be adjusted, in specific cases, to meet the particular needs of each group, in order to optimize outcomes and better suit the training context.
For further details or to discuss a customized schedule, please get in touch with us.

PRICE AND FUNDING

Each quotation is personalized and depends on several factors, such as the number of participants, the number of training hours, the location of the course, and any additional services requested (accommodation, transport, meals, cultural activities, etc.).
To receive a tailored quotation for your group, please get in touch with us.
The training can be funded through programs such as Erasmus+ (KA1 – Learning Mobility), among other European support mechanisms. For more information about funding, participants should contact their sending organization or their country's National Agency directly.

LOCATION AND COURSE LANGUAGE

We have training rooms in several cities in Mainland Portugal, such as Barcelos (headquarters), Braga, Póvoa de Varzim, and Porto. We also have spaces in the islands of Madeira (Funchal) and the Azores (Ponta Delgada). Additionally, we have facilities in Valencia, Spain.
The course is delivered in English.

CERTIFICATION

A Certificate of Participation is awarded to participants who attend at least 80% of the sessions and demonstrate consistent engagement and commitment throughout the training. Upon completion of the course, a formal certification ceremony will take place, during which the certificates will be presented to the participants.

OTHER SERVICES

To enrich the training experience, Mobility Friends offers a range of additional services, subject to availability and additional cost, which can be arranged for individual participants or groups.
Services include:

- Accommodation in partner residences or hotels
- Meals (lunch and/or dinner)
- Transfers between the accommodation and the training room
- Airport transfers
- Cultural visits

All services are subject to availability and must be requested in advance. For more information and personalised quotes, please contact our team.

COURSE CONTENTS

MODULE 1: INTRODUCTION TO RHINOCEROS 3D

- Overview of Rhinoceros 3D and its applications.
- Understanding the interface and workspace.
- Navigating the 3D viewport (zoom, pan, rotate).
- Basic software settings and customization.

MODULE 2: BASIC DRAWING AND SKETCHING TOOLS

- Creating and editing 2D curves and lines.
- Using snapping and object snaps.
- Drawing basic shapes: circles, rectangles, polygons.
- Introduction to layers and object organization.

MODULE 3: CREATING AND EDITING 3D GEOMETRY

- Introduction to surfaces and solids.
- Extruding, lofting, and sweeping curves.
- Basic solid modeling commands (box, sphere, cylinder).
- Editing tools: move, scale, rotate, trim, join.

MODULE 4: ORGANIZING AND MANAGING MODELS

- Working with layers and groups.
- Managing object properties and visibility.
- Using selection filters and commands.
- Introduction to blocks and instances.

MODULE 5: BASIC TRANSFORMATIONS AND MODIFICATIONS

- Moving, scaling, rotating objects.
- Mirroring and array commands.
- Basic boolean operations (union, difference, intersection).

MODULE 6: EXPORTING AND PREPARING MODELS

- Saving files and version control.
- Exporting to common 3D formats (STL, OBJ, DWG).
- Preparing models for 3D printing or further processing.

MODULE 7: PRACTICAL PROJECT AND REVIEW

- Guided project to create a simple 3D model from start to finish.
- Applying learned tools and techniques.
- Troubleshooting common issues.
- Course recap and next steps for further learning.

*Please note that program content may be subject to change based on input from our trainers.

MOBILITY FRIENDS
TRAINING CENTER

DGERT

ENTIDADE FORMADORA CERTIFICADA

Certified by DGERT - Directorate General
for Employment and Labor Relations

www.mobilityfriends.org

TRAININGCOURSES@MOBILITYFRIENDS.ORG

+351 253 144 226 / +351 960 285 416

/MOBILITYFRIENDS

@MOBILITYFRIENDSOFFICIAL

MOBILITY FRIENDS

MOBILITY FRIENDS