STEM AND TECHNOLOGICAL INNOVATION
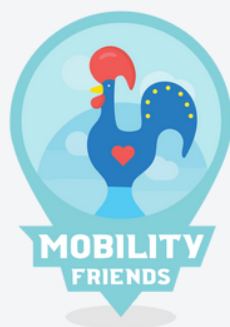
3D Modeling and Printing

SKETCHUP: INTRODUCTION TO 3D MODELING

Your Mobility Partner

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

COURSE OVERVIEW

This course provides a practical and engaging introduction to SketchUp, a widely used 3D modeling software. Participants will learn how to create, edit, and organize 3D models using fundamental tools and techniques. Through hands-on exercises, learners will gain confidence in navigating the interface, drawing basic shapes, and developing simple models applicable to architecture, design, engineering, and creative projects. The course emphasizes a step-by-step approach, ensuring participants build a solid foundation in 3D modeling that can be applied to personal, academic, or professional contexts. By the end of the course, participants will have completed a basic 3D model and acquired skills to continue exploring more advanced features of SketchUp independently.

TARGET AUDIENCE

This course is designed for individuals interested in learning the fundamentals of 3D modeling using SketchUp. It is suitable for beginners from a variety of backgrounds, including students, professionals, and hobbyists who want to develop practical skills in digital design. The course is ideal for those curious about 3D technologies and who wish to create simple, accurate 3D models for personal projects, academic purposes, or early-stage professional work.

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 concepts and interface of SketchUp.
- Use essential tools to create and modify 3D models.
- Draw and edit basic shapes and geometry accurately.
- Organize models using layers and groups for better management.
- Navigate and manipulate the 3D workspace efficiently.
- Apply simple transformations such as move, scale, and rotate.
- Export models in common file formats for sharing or further use.
- Build a basic 3D model applicable to design, architecture, or creative projects.

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 SketchUp interface confidently.
2. Create and edit 2D shapes and convert them into 3D models.
3. Use key modeling tools to build and refine 3D geometry.
4. Organize and manage models with layers, groups, and components.
5. Apply transformations such as move, rotate, and scale effectively.
6. Use basic camera and view controls to inspect models.
7. Export 3D models in common formats suitable for presentations or further processing.
8. Complete a simple 3D modeling project that demonstrates foundational 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 SKETCHUP AND 3D MODELING
- Overview of SketchUp and common applications.
- Introduction to 3D modeling concepts.
- Understanding the interface and workspace.
- Navigating the 3D viewport (zoom, pan, orbit).
- Basic software setup and preferences.

MODULE 2: BASIC DRAWING AND SKETCHING TOOLS
- Drawing and editing 2D shapes (lines, rectangles, circles, polygons).
- Using snapping and inference tools.
- Managing drawing aids (axes, guides, and measurement tools).
- Introduction to layers and organization.

MODULE 3: CREATING AND EDITING 3D GEOMETRY
- Pushing and pulling shapes to create 3D forms.
- Using tools for extruding, offsetting, and scaling.
- Creating and editing groups and components.
- Basic editing commands: move, rotate, scale, erase.

MODULE 4: MODEL ORGANIZATION AND MANAGEMENT
- Using layers and tags for model organization.
- Managing groups and components effectively.
- Using scenes and views to navigate complex models.

MODULE 5: APPLYING MATERIALS AND TEXTURES MODIFICATIONS
- Introduction to SketchUp materials library.
- Applying and editing materials on surfaces.
- Basic texture mapping concepts.

MODULE 6: CAMERA AND VIEW MANAGEMENT
- Controlling views: perspective and orthographic modes.
- Using standard views and custom scenes.
- Setting up walk-throughs and animations basics.

MODULE 7: EXPORTING AND SHARING MODELS
- Saving and managing SketchUp files.
- Exporting models to common formats (PNG, JPG, STL, DWG).
- Preparing models for 3D printing or other software.

MODULE 8: FINAL PROJECT
- Planning and creating a simple 3D model (e.g., a piece of furniture or small architectural design).
- Applying all skills learned throughout the course.
- Presenting and reviewing the project.

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

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