



Metashape Foundation Course for Forensics & Surveying

JULY 27, 2020 SIMON BROWN

23% COMPLETE Last activity on May 13, 2024 8:09 am **IN PROGRESS**

Welcome to the Metashape Foundation Course. We hope you enjoy the lessons as we share our collective knowledge of photogrammetry and Metashape Standard.

This course is aimed at the following users:

- Users of Agisoft **Metashape Standard** who are wish to create the highest quality 3D models
- Users of Agisoft **Metashape Professional** who are wish to create accurate and repeatable results

The Metashape Foundation Course course is broadly split into two main sections:

- Photography for Photogrammetry
- Using Metashape Standard for 3D reconstruction

At first, it may seem strange to concentrate on creating images. You may already consider yourself a skilled photographer. However, we urge you to work through the section on the how and why of creating images as photogrammetry has its specific requirements and understanding them will reduce the risk of issues and enhance quality of the final product.

That is not to say just any set of images will work. Metashape can be quite forgiving at times. But, like any digital process if you start with a fundamentally sound set of data (images) everything that follows is usually easier, quicker and more accurate. For this reason alone we start with photography before progressing into reconstruction.

Requirements of Course

The section from Metashape Foundation Course on photogrammetry will take your knowledge beyond the interface and into how 3D reconstruction works. We will discover where the pitfalls lie and act as a authoritative guide towards always delivering the highest quality reconstruction.

Within the Metashape Foundation Course, there are a series of quizzes to test your knowledge at the end of each section. Additionally, each section features an assignment to complete. The quizzes are mandatory and have a minimum pass mark to achieve before progressing. However, the assignments are optional with the exception of the last one. The required assignment necessitates you to submit a report of your own model. Don't worry...Metashape writes the report for you and we will cover how to do this in the course.

For the Professional edition user this course will teach the basics of the photogrammetry workflow and prepare you for the AccuPixel **Professional Edition Forensics and Surveying** course.

Metashape Foundation Course Endorsed by Agisoft

We are naturally proud of the **endorsement** of this Metashape course by none other than Agisoft. Furthermore, we are extremely grateful for their continuing support in ensuring professional users of Metashape Standard edition extract as much value as possible from the software.

So, do please enjoy the Metashape Foundation course. Please feel free to get in touch at any time - we always welcome feedback.

One final note: AccuPixel Limited holds all rights to the contents of this course. We acknowledge the trademarks of their respective owners.



Course Content

Introduction

Introduction to Photogrammetry 2 Topics [Collapse All](#)

Lesson Content 100% COMPLETE | 2/2 Steps

- Old Process - New Methods
- The First Model - End-to-End Road Scene Example

Photography for Photogrammetry 7 Topics [Collapse](#)

Lesson Content 28% COMPLETE | 3/7 Steps

- The Digital Camera
- Shutter, Aperture and ISO
- Optimum Depth of Field
- Freeze Frame - Shutter Speeds
- Precise Focus
- Exposure and Metering
- Camera Modes

Image Technical Requirements 2 Topics [Collapse](#)

Lesson Content 50% COMPLETE | 1/2 Steps

- Image File Formats
- Image Metadata and EXIF

Image Overlap and Composition 2 Topics [Collapse](#)

Lesson Content 50% COMPLETE | 1/2 Steps

- Image Overlap
- Composition for Geometry

Artificial Lighting 1 Topic [Collapse](#)

Lesson Content 0% COMPLETE | 0/1 Steps

- Using Artificial Lighting

Equipment Selection 6 Topics [Collapse](#)

Lesson Content 16% COMPLETE | 1/6 Steps

- Camera Types
- Lenses - Overview
- Lenses - Field of View
- Accessories
- Processing Hardware
- A Word on Action Cameras

Summary - Photography for Photogrammetry 1 Quiz [Collapse](#)

Lesson Content

- Quiz Time - Photography for Photogrammetry

Fundamentals of Photogrammetry

The Principles of Photogrammetry 5 Topics [Collapse](#)

Lesson Content 80% COMPLETE | 4/5 Steps

- Basic Principles
- 2D to 3D - Basic Steps in Metashape
- Aerial vs Close Range
- Results and Outputs
- Applications

Use Cases 2 Topics [Collapse](#)

Lesson Content 0% COMPLETE | 0/2 Steps

- Use Cases - Simple & Straightforward
- Use Cases - Challenging to Impossible

Summary - Fundamentals of Photogrammetry 1 Quiz [Collapse](#)

Lesson Content

- Quiz Time - Fundamentals of Photogrammetry

Calibration and Referencing

Camera Calibration 1 Topic [Collapse](#)

Lesson Content 100% COMPLETE | 1/1 Steps

- Interior Orientation - Camera Calibration

Coordinate Systems 1 Topic [Collapse](#)

Lesson Content 100% COMPLETE | 1/1 Steps

- Coordinate Systems

Summary - Calibration and Referencing 1 Quiz [Collapse](#)

Lesson Content

- Quiz Time - Calibration and Referencing

Introduction to Metashape

Metashape User Interface and Settings 3 Topics [Collapse](#)

Lesson Content 100% COMPLETE | 3/3 Steps

- Installation Instructions
- Program Settings
- The User Interface

Projects and Chunks 1 Topic [Collapse](#)

Lesson Content 100% COMPLETE | 1/1 Steps

- Metashape Projects and Chunks

Managing Projects 2 Topics [Collapse](#)

Lesson Content 50% COMPLETE | 1/2 Steps

- Adding Photos to a Metashape Project
- Adding Folders to a Metashape Standard Project

3D Viewport 2 Topics [Collapse](#)

Lesson Content 0% COMPLETE | 0/2 Steps

- 3D Viewport Navigation and View Modes
- Object/Scene and Region Transform

Camera Calibration 4 Topics [Collapse](#)

Lesson Content 0% COMPLETE | 0/4 Steps

- Camera Groups
- Camera Calibration with Fine Adjustment
- Calibrating Cameras and Lenses
- Steps to Calibrate

Summary - Introduction to Metashape 1 Quiz [Collapse](#)

Lesson Content

- Quiz Time - Introduction to Metashape

Metashape Workflow Part I

Feature Points & Tie Points 1 Topic [Collapse](#)

Lesson Content 100% COMPLETE | 1/1 Steps

- Key Points and Tie Points