

Introduction to the Alias Curriculum

Welcome to the Autodesk Alias 2010 Education Curriculum. This comprehensive curriculum gives university instructors a modular set of materials to teach industrial design using Alias.

An outline course structure is offered that takes a student through a logical progression of skills development, from complete beginner to the production of concept models and renderings. This can be used by a university instructor to create a new curriculum with minimal set-up time. Alternatively, the materials are flexible enough to be integrated, in part or in total, into an existing curriculum.

The curriculum teaches product and transportation design techniques, with additional examples from packaging and furniture design. An instructor can focus on one design discipline, to create a shorter course, or cover all disciplines and provide a broader, more comprehensive learning program.

How the Curriculum is Structured

The curriculum materials have been constructed to be used in teaching sessions, with a class and a teacher. It is expected that the teacher be a competent user of Alias software, but it is recognized that a teacher's skills may range from basic to advanced, and the materials are designed to support this range of experience.

The philosophy of the curriculum materials is based on the following principles:

- Institutions will have different length of classroom sessions and courses. Therefore the materials are modular and can be rearranged to suit your style of teaching.
- Students learn by engaging with the software, and so the majority of the courseware is interactive exercises and projects.
- Students learn at different speeds, and so the materials are designed with easy and more challenging exercises, to allow each student to progress at his or her own speed.
- Inspiration and aspiration are key to learning, and the materials use a combination of industrial-based and fun examples to excite and motivate the students.

The course materials comprise three main components:

Lessons

Exercises

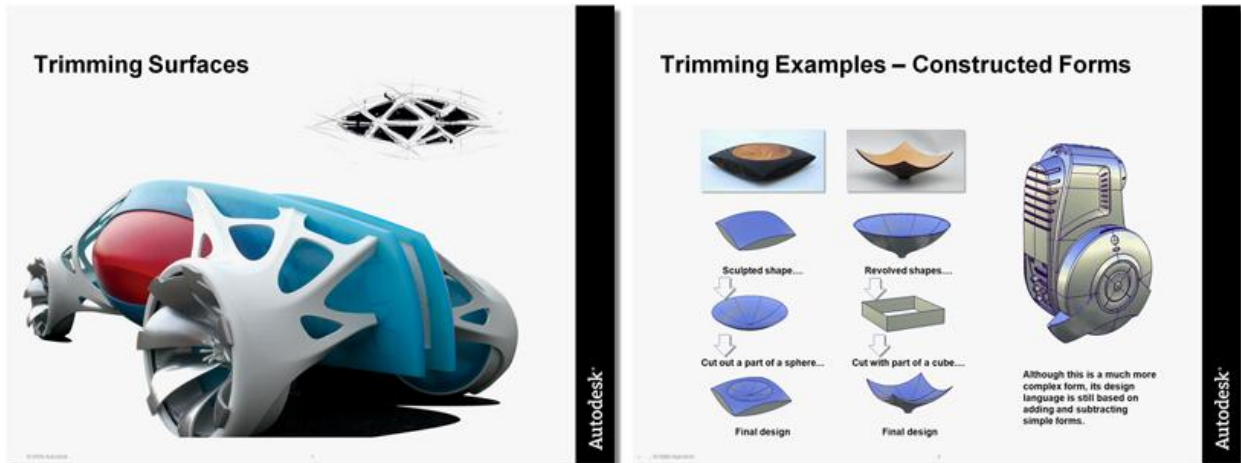
Projects

The following pages guide you through how to use these three components as part of your teaching.

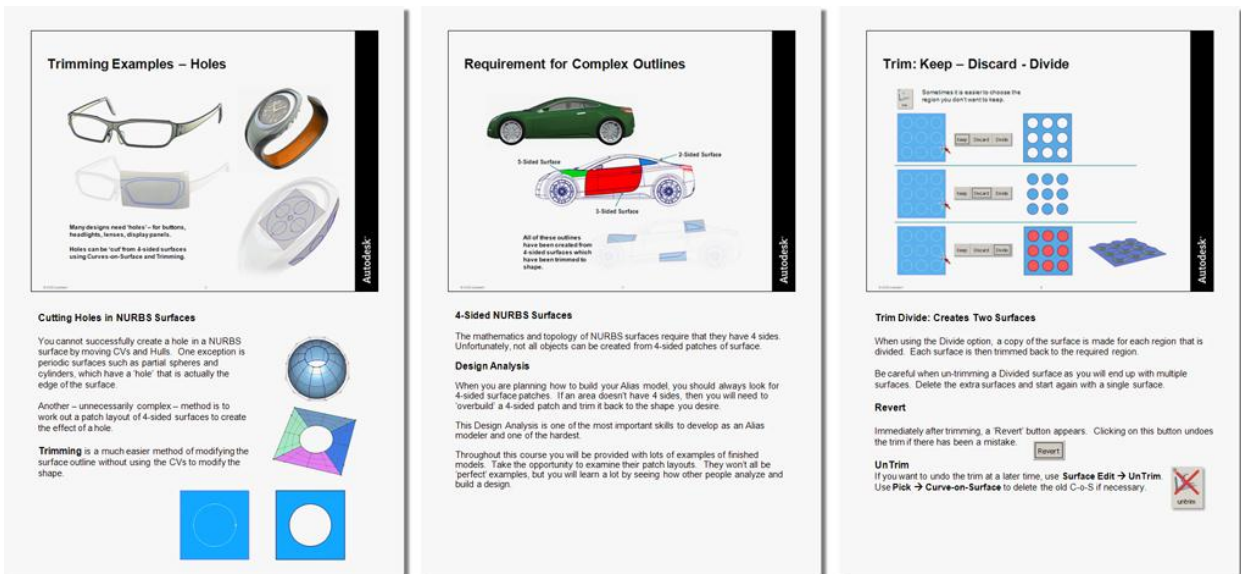
Lessons

A **lesson** is provided as the focus of a teaching session. The lesson will cover a design concept and use industry examples to introduce the software tools or techniques and inspire the students. The lessons are provided in standard PowerPoint and PDF formats so that they can be used effectively in a classroom session and customized if required.

PowerPoint Slides:



PowerPoint Notes Pages:

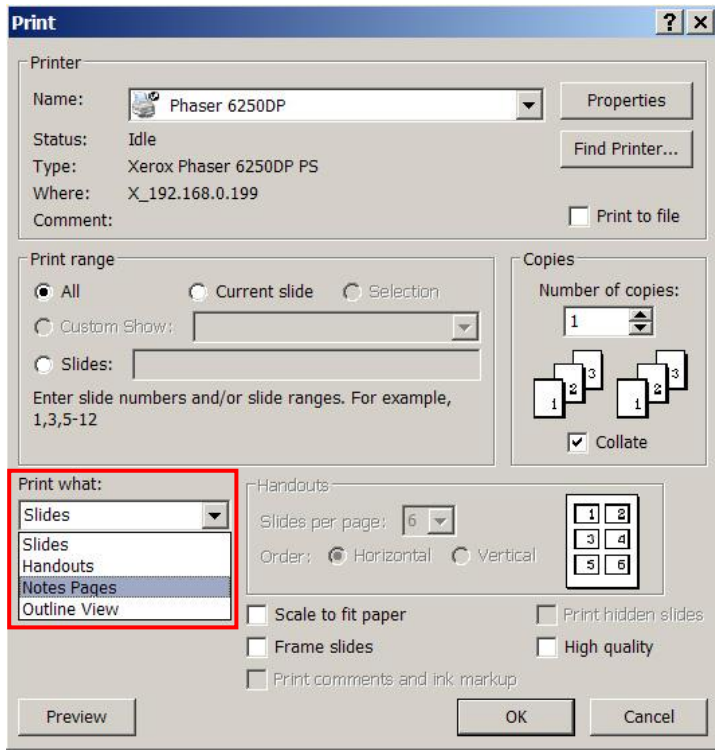


The PowerPoint lessons have notes sections, which have two purposes:

Instructor Notes - For less experienced teachers, the notes can be read as a guide to how to present and teach the slides.

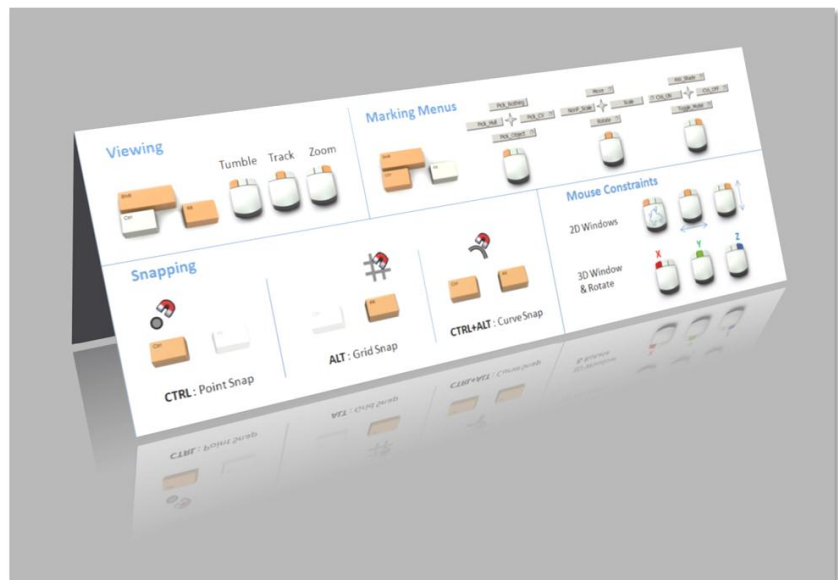
Students Notes - The notes pages can be printed out as handouts for students, so they can concentrate on your teaching but have some notes for reviewing afterwards.

To print the notes pages, choose the 'Notes Pages' option in the 'Print what:' section of the printing options.



Tips Card

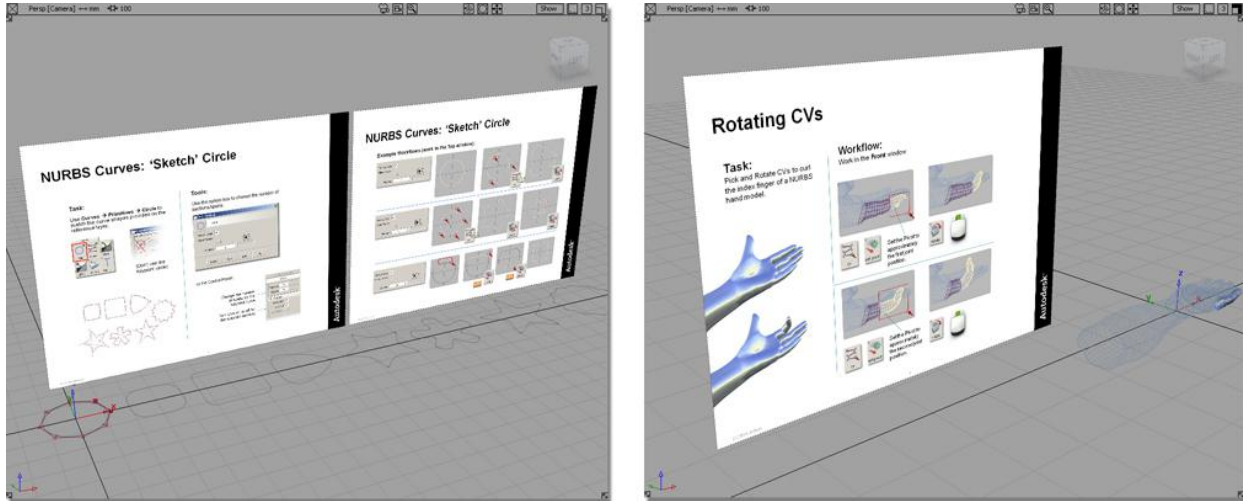
For the first few lessons, the students have a lot of techniques to remember that involve mouse and keyboard combinations. A 'tips card' has been provided that should be printed out (on stiff paper or card) and given to each student to use by his or her computer.



Exercises

Students learn by engaging with the software, so a series of *exercises* are provided with each lesson to teach individual software tools or techniques.

The exercises are Alias wire files with embedded canvas planes containing instructions for the students. They require the ViewCube view projection mode to be set to *Perspective*. The files are self-contained and don't need any printed instructions.



How to Use the Exercise Files

The first exercise in Lesson 1 teaches you and your students how to use the exercise files.

There are some issues regarding versions of Alias and graphics cards, so you are advised to go through the exercises and test them out before starting to teach them.

Using the Exercise Files for Demos during Lessons

As you teach Alias, the lesson PowerPoint files are useful for introducing and explaining topics. However, it is invaluable to demonstrate techniques as well.

Each lesson has a break for the students to work through some exercises. As a teacher, you can open the exercise files and use them to demonstrate techniques. This is particularly useful at the early stages of learning when the students are unsure of how to proceed.

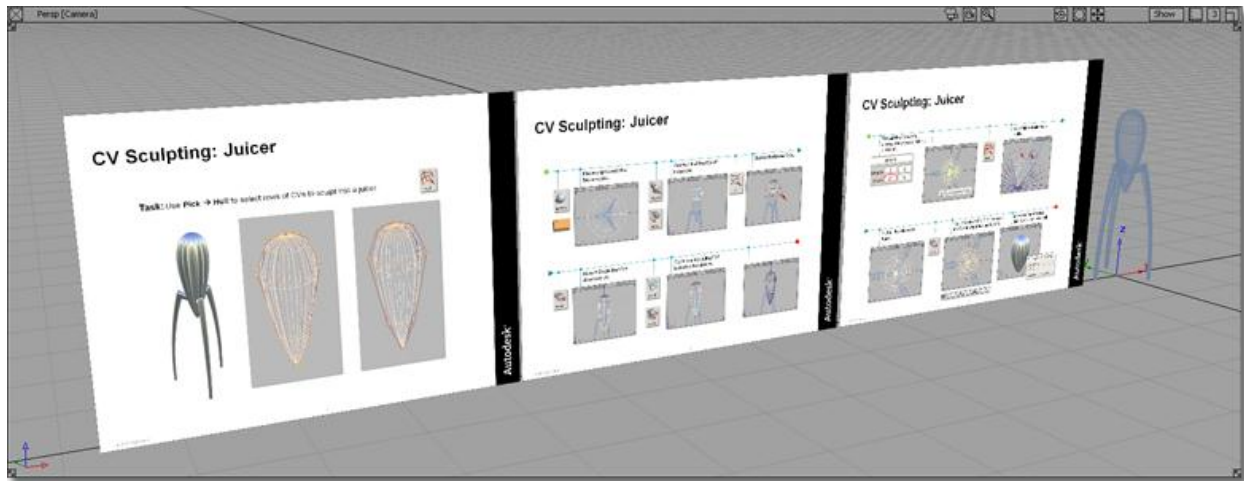
You can choose to turn off the 'Pages' layer to hide the instructions, or you can use the instruction pages in the same way as a PowerPoint slide by using the Alias Full-screen mode with the Page Up and Page Down keys.

Be sure to run through all the exercises before you teach a lesson to be familiar with how they integrate into the teaching format.



Projects

Each topic covered is completed with **projects**. Projects are in the same format as an exercise but are longer and more involved. The purpose of a project is to understand workflows, enabling the students to apply their knowledge of tools and techniques to a variety of design activities. Projects include real industry examples, so that students gain a deeper level of understanding as they develop their technical skills.



There are a number of projects supplied with each lesson, and they will range from easy to difficult.

The slower students will be expected to complete one or two of the projects.

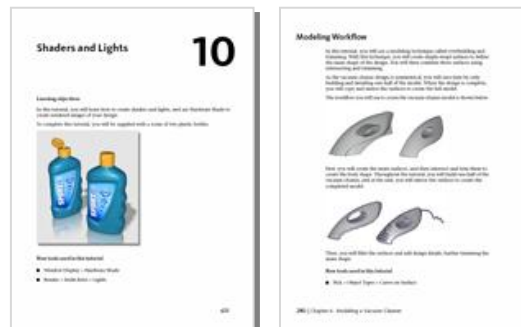
The faster students can attempt the harder projects to test and expand their skills. If they struggle to achieve the goal of the project, they should be encouraged to look at the Help files and Reference Manuals and to collaborate among themselves. The projects are deliberately challenging, with some freedom for creativity, to stretch the stronger students.

Custom Projects

At the project stage of teaching, you are encouraged to bring in ideas for projects that relate to the subjects that the students are studying as part of their main curriculum.

Learning Alias Book

The Learning Alias book (also provided as a PDF) has self-teach tutorials, which can be used to supplement the curriculum materials. These projects are described step by step and so can be helpful for students who prefer a structured way of learning or as 'homework' projects.



Course Program

The following is a suggested program for teaching the lessons provided in the curriculum. This is intended to take complete beginners to an intermediate level of modeling and an introductory level of rendering.

Lesson 1 - Introduction to Alias and the Interface

Lesson 2 - Building with Primitives

Lesson 3 - Controlling Geometry

Lesson 4 - Dimensional Accuracy

Lesson 5 – Curve Tools

Lesson 6 – Surface Tools

Lesson 7 – Intersecting and Trimming

Lesson 8 – Introduction to Hardware Shade

Lesson 9 – Sculpting NURBS Surfaces

Lesson 10 – Projecting, Trimming, and Detailing

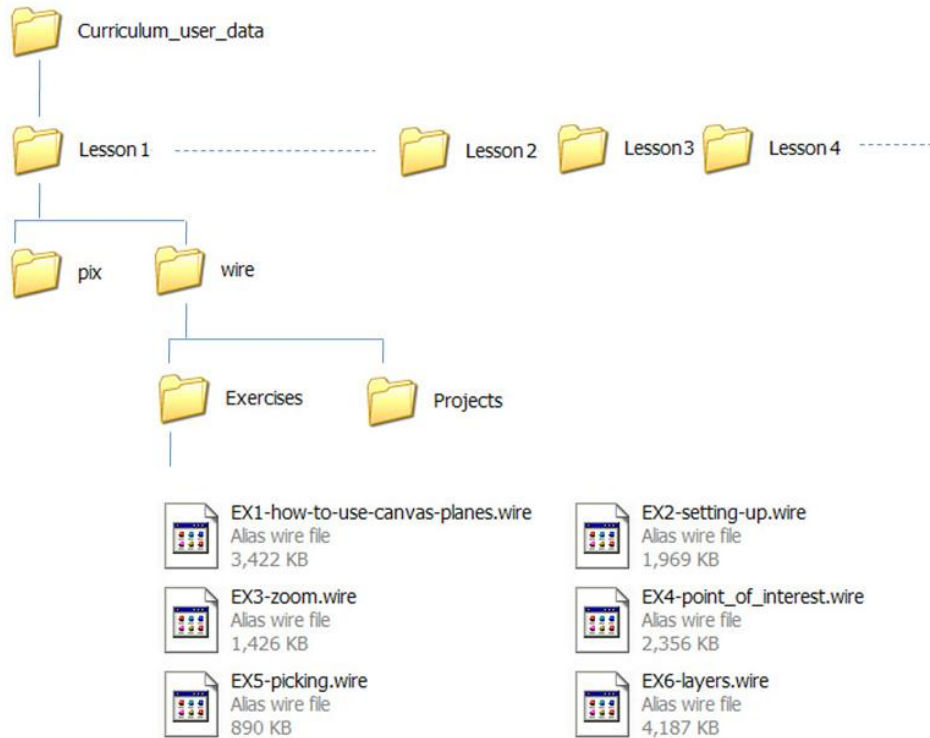
Lesson 11 – NURBS Continuity, Align, and Surface Fillet

Lesson 12 – Blend Curves and Blend Surfaces

If you only want to teach an introductory course, teach Lessons 1 – 8 as these will provide a good overview of the basic skills.

Setting Up Alias for Teaching

The Curriculum Materials are provided on a CD or a download in the following format:



Each lesson is an Alias 'project' with wire and sometimes pix directories.

Each lesson should be loaded into the student's user_data directory, as a normal Alias project.

At the beginning of each lesson, the students should be directed to work with the current project files.

You can load all of the lessons at the beginning of the training so students can jump ahead if they want to. Or, just load each lesson every time you do a class.

It is strongly recommended that you load the Help files onto each workstation used by students.

Reference Manuals

Reference Manuals are also provided in PDF format. These provide detailed information, which can help more advanced students increase their knowledge independently.

The reference manuals are available to download from the Community website under the 'Resources' section:

<http://aliasdesign.autodesk.com>

Make sure that these are available to your students and that they can access them when they want more information or an answer to a query.

The screenshot shows a web browser window at <http://aliasdesign.autodesk.com/>. A dropdown menu titled "Downloadable Files" is open, listing various PDF files with their sizes. The sidebar on the right contains several sections: "Design Competition", "SketchBook Pro 2010 Resources", "AliasResources" (circled in red), and "Manufacturing Community". A red arrow points from the "AliasResources" section to the "Downloadable Files" menu.

Downloadable Files
AliasAPI.pdf (3 MB)
AliasConcepts.pdf (1.8 MB)
Animating.pdf (2.1 MB)
BasicTools.pdf (25.3 MB)
DataTransfer.pdf (742 kB)
EnvironmentVariables.pdf (247 kB)
FileFormats.pdf (238 kB)
GettingStarted2010.pdf (11.8 MB)
Glossary.pdf (252 kB)
ICEMTransitionGuide2010.pdf (12.4 MB)
InstallingAlias.pdf (1.1 MB)
LearningAlias.pdf (25.6 MB)
LearningTechSurfacing.pdf (17.1 MB)
LicensingAlias.pdf (461 kB)
QuickReference.pdf (103 kB)
ReferenceBook.pdf (22.4 MB)
ReleaseNotes.pdf (683 kB)
Rendering.pdf (5.7 MB)
RhinoTransitionGuide2010.pdf (3.3 MB)
SDL.pdf (1.8 MB)
Sketching.pdf (41.4 MB)
WhatsNew.pdf (2.3 MB)
Utilities.pdf (378 kB)