

**ITT Technical Institute**

**IT309**

**Animation I**

**Onsite Course**

# **SYLLABUS**

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**Credit hours:** 4

**Contact/Instructional hours:** 50 (30 Theory Hours, 20 Lab Hours)

**Prerequisite(s) and/or Corequisite(s):**

Prerequisites: CD140 Rapid Visualization, CD340 Physical and Computer-Aided 3D Modeling or IT209 3D Modeling or VC210 Modeling in 3D

**Course Description:**

This course is a continuation of the 3D Modeling course. Principles of form topology, visual design and movement are applied in the creation of simple animated sequence.

# Where Does This Course Belong?

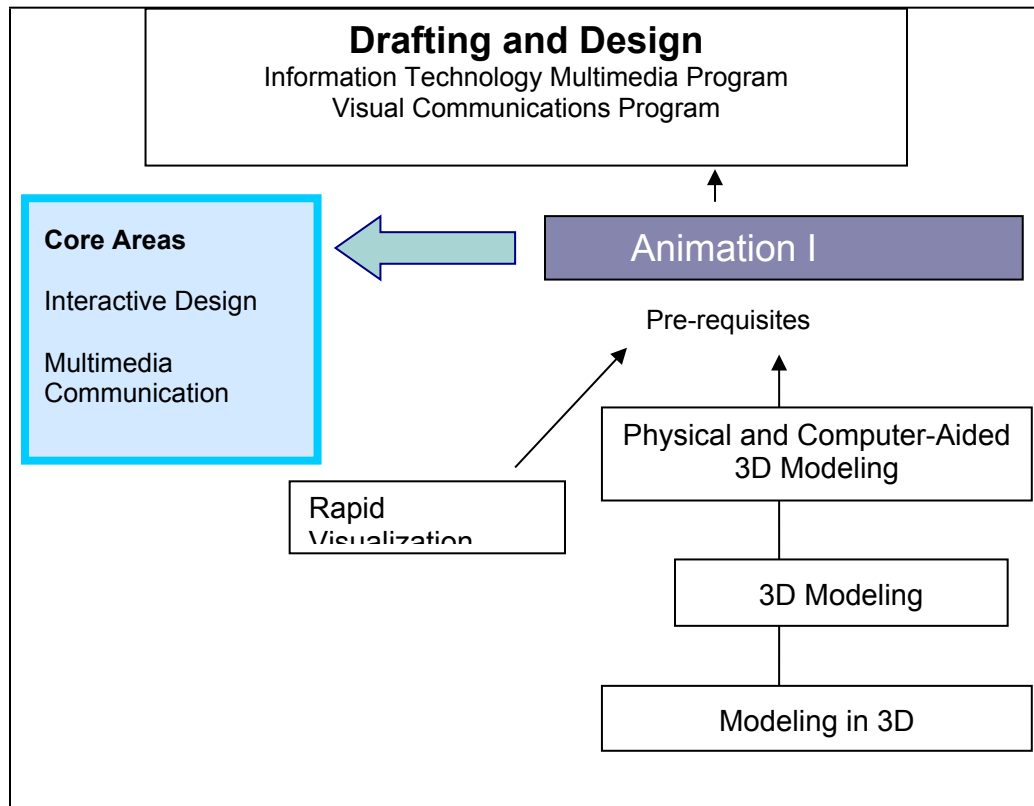
How does this course relate to the program? Take a look!

Animation I is required to achieve an associate’s degree in the Information Technology - Multimedia and Visual Communications programs.

The Multimedia program at ITT Tech will prepare graduates to find entry-level jobs in the information/interaction design fields. The Multimedia program is designed for individuals concerned with envisioning creative ways of communicating ideas and concepts through electronic media. It emphasizes creativity, visualization, and critical thinking to generate technologically appropriate and aesthetically pleasing solutions for communications.

Graduates of the Visual Communications program may pursue entry-level positions involving the design and production of digital media, print media, and a variety of applications used in corporate and public communications. The Visual Communications program can help graduates prepare to perform tasks associated with designing and creating interactive multimedia communications and print communications.

The following course sequence provides an overview of how Animation I fits in the program.



Note: Refer to the catalog for state-specific course information.

# Syllabus: Animation I

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Instructor: \_\_\_\_\_  
Office hours: \_\_\_\_\_  
Class hours: \_\_\_\_\_

## Major Instructional Areas

1. Animation basics
2. Compound objects
3. Particle systems
4. Space warps
5. Graphite modeling techniques
6. Rigid body dynamics
7. Systems and hierarchy
8. Kinematics
9. Demo reel/portfolio project

## Course Objectives

1. Analyze the basics of animation.
2. Create and modify compound objects.
3. Explain various types of particle systems.
4. Demonstrate the use of space warps.
5. Explain the graphite modeling techniques.
6. Create rigid body dynamic simulations using MassFx.
7. Explain systems and hierarchy in 3ds Max 2012.
8. Explain Kinematics.
9. Develop a complete rendered scene in 3ds Max 2012 for the demo reel/portfolio.

## SCANS Objectives

SCANS is an acronym for Secretary's Commission on Achieving Necessary Skills. The committee, created by the National Secretary of Labor in the early 1990s, created a list of skills and competencies that the committee feels are necessary for employees to function in a high-tech job market.

1. Interpret and creatively communicate written information in a 3D design, model, or animation rendering.
2. Successfully participate as a contributing member of a team.
3. Apply the specific technology of a software program to communication of design ideas.
4. Demonstrate problem-solving skills by choosing an appropriate solution to a problem.
5. Evaluate methods of animation with the appropriate software.
6. Demonstrate creative thinking and imaginative use of computer software.

## Course Outline

Note: All graded activities, except the Project, are listed below in the pattern of <Unit Number>.<Assignment Number>. For example, Labs: 3.1 refers to the first Lab activity in Unit 3.

Unit	Activities
1—Animation Basics	<ul style="list-style-type: none"> <li>• Read from <i>Autodesk 3ds Max 2012: A Comprehensive Guide</i>:               <ul style="list-style-type: none"> <li>○ Chapter 12, “Animation Basics”</li> </ul> </li> <li>• Labs: 1.1</li> <li>• Assignments: 1.1</li> </ul>
2—Compound Objects	<ul style="list-style-type: none"> <li>• Read from <i>Autodesk 3ds Max 2012: A Comprehensive Guide</i>:               <ul style="list-style-type: none"> <li>○ Chapter 9, “Compound Objects,” pp. 9-1 to 9-19</li> </ul> </li> <li>• Labs: 2.1</li> <li>• Quizzes: 2.1</li> </ul>
3—Particle Systems and Space Warps – I	<ul style="list-style-type: none"> <li>• Read from <i>Autodesk 3ds Max 2012: A Comprehensive Guide</i>:               <ul style="list-style-type: none"> <li>○ Chapter 13, “Particle Systems and Space Warps - I”</li> </ul> </li> <li>• Labs: 3.1</li> <li>• Assignments: 3.1</li> </ul>
4—Particle Systems and Space Warps – II	<ul style="list-style-type: none"> <li>• Read from <i>Autodesk 3ds Max 2012: A Comprehensive Guide</i>:               <ul style="list-style-type: none"> <li>○ Chapter 14, “Particle Systems and Space Warps - II”</li> </ul> </li> <li>• Labs: 4.1</li> <li>• Quizzes: 4.1</li> </ul>
5—Graphite Modeling Techniques	<ul style="list-style-type: none"> <li>• Read from <i>Autodesk 3ds Max 2012: A Comprehensive Guide</i>:               <ul style="list-style-type: none"> <li>○ Chapter 18, “Graphite Modeling Techniques”</li> </ul> </li> <li>• Labs: 5.1</li> </ul>

Unit	Activities
	<ul style="list-style-type: none"> <li>• Assignments: 5.1</li> </ul>
6—Rigid Body Dynamics	<ul style="list-style-type: none"> <li>• Read from <i>Autodesk 3ds Max 2012: A Comprehensive Guide</i>: <ul style="list-style-type: none"> <li>○ Chapter 17, “Rigid Body Dynamics and Helpers” pp. 17-1 to 17-19</li> </ul> </li> <li>• Labs: 6.1</li> <li>• Quizzes: 6.1</li> </ul>
7—Systems and Hierarchy	<ul style="list-style-type: none"> <li>• Read from <i>Autodesk 3ds Max 2012: A Comprehensive Guide</i>: <ul style="list-style-type: none"> <li>○ Chapter 15, “Systems, Hierarchy, and Kinematics,” pp. 15-1 to 15-11</li> </ul> </li> <li>• Labs: 7.1</li> <li>• Assignments: 7.1</li> </ul>
8—Kinematics	<ul style="list-style-type: none"> <li>• Read from <i>Autodesk 3ds Max 2012: A Comprehensive Guide</i>: <ul style="list-style-type: none"> <li>○ Chapter 15, “Systems, Hierarchy, and Kinematics,” pp. 15-11 to 15-17</li> <li>○ ITT Tech Virtual Library&gt; Main Menu&gt; Books&gt; Ebrary&gt; <i>Murdock, Kelly. 3ds Max 2012 Bible. NJ: John Wiley &amp; Sons, 2011: Chapter 38, “Working with Inverse Kinematics,” pp. 934-946</i></li> </ul> </li> <li>• Labs: 8.1</li> <li>• Quizzes: 8.1</li> </ul>
9—Final Project	<ul style="list-style-type: none"> <li>• Final Project</li> </ul>
10—Final Project (Continued)	<ul style="list-style-type: none"> <li>• Final Project</li> </ul>
11—Course Review and Final Exam	<ul style="list-style-type: none"> <li>• Final Exam</li> </ul>

## Instructional Methods

The Animation I course is designed to promote a variety of teaching strategies that support the outcomes described in the course objectives. Your instructor will use a variety of instructional methods to facilitate your learning inside as well as outside the classroom. Your instructor should make available to you lesson plans, course materials, notes, and resources before the theory portion of the class.

The course is composed of both theory and laboratory components. Your progress will be regularly assessed.

The material taught in Animation I is fundamental to success in all future multimedia based courses within the Computer Drafting and Design program. It is therefore imperative to come to each class session prepared by having read the assigned textbook chapters. You must complete all quizzes and laboratory assignments to ensure full comprehension of the subject matter. The two projects require you to prepare a demo reel/portfolio, which is a major element in securing work in the multimedia field. A final exam at the end of the course will assess your understanding of the content material.

## Instructional Materials and References

### Student Textbook Package

- Tickoo, Sham. *Autodesk 3ds Max 2012: A Comprehensive Guide*. Schererville, IN: CADCIM Technologies, 2011.

### References

Log on to the ITT Tech Virtual Library at <http://library.itt-tech.edu/> to access online books, journals, and other reference resources selected to support ITT Tech curricula.

#### Books

You may click “Books” from the Main Menu or use the “Library Catalog” function on the home page to find the following books.

[ITT Tech Virtual Library> Main Menu> Books> Ebrary](#)

- Bousquet, Michele. *How to Cheat in 3ds Max 2009: Get Spectacular Results Fast*. Burlington, MA: Focal Press, 2008.
- Derakhshani, Randi L., and Dariush Derakhshani. *Introducing Autodesk 3ds Max 2011: Autodesk Official Training Guide*. Alameda, CA: Sybex 2010.
- Murdock, Kelly. *3ds Max 2012 Bible*. NJ: John Wiley & Sons, 2011.

#### Periodicals

You may click “Periodicals” from the Main Menu or use the “E-Journal Look-up” function on the home page to find the following periodicals.

[ITT Tech Virtual Library> Main Menu> Periodicals> ProQuest>](#)

- Computer Graphics World
- Game Developer
- Computer Graphics and Software
- Graphics and Design
- Animation and Motion Pictures
- Animation and Television Programs
- Multimedia and Applications

### Other References

The following websites may be found **outside** of the ITT Tech Virtual Library.

- 3D Total: The CG Artist’s Homepage with fresh CG Industry news  
<http://www.3dtotal.com>  
Galleries, tutorials, forums, and textures for CG artists
- CG Channel: News, Videos, Training, and Community for Entertainment Artists  
<http://www.cgchannel.com>  
Daily News, Tutorials, Galleries, Community Forums, and Forums for individual and corporate demo reels
- Society of Digital Artists  
<http://www.cgsociety.org>  
Membership site for the CGSociety, includes member area, portfolios, workshops, cg competitions, discussion forums, and job board
- CGArena: Animation and Graphics community for 3D Artists

- <http://www.cgarena.com>  
CGNews, galleries, free models and textures, free monthly e-zine, tutorials, demoreels, and job boards for CG artists
- Digital Arts: Inspiration for digital creatives  
<http://www.digitalartsonline.co.uk>  
Comprehensive coverage of the art of graphic design, 3D, animation, video, effects, web and interactive design, in print and online
  - Autodesk: Education Community for students  
<http://students.autodesk.com>  
Licensed software for Students and Faculties from Autodesk
  - Autodesk Students: Facebook page  
[https://www.facebook.com/Autodeskedcommunity?sk=app\\_180884248665675](https://www.facebook.com/Autodeskedcommunity?sk=app_180884248665675)  
Over 35 products available for free right from the Facebook
  - Autodesk: YouTube channel  
<http://www.youtube.com/user/Autodesk>  
YouTube channel of Autodesk
  - Autodesk: Area Support Forums  
<http://area.autodesk.com/>  
News, software trials, tutorials, discussions, blogs, showcases, job board from Autodesk
  - ScriptSpot: 3ds Max Scripts  
<http://www.scriptspot.com/>  
A community for downloading and sharing the max scripts
  - Online Tutorials: A collection of CG tutorials on the web  
Pixel 2 Life: <http://www.pixel2life.com>  
CG Tutorials: <http://www.cgtutorials.com>  
Tutorial Sphere: <http://www.tutorialsphere.com>  
Tuts Buzz: <http://www.tutsbuzz.com>

All links to web references are always subject to change without prior notice.

## Course Evaluation and Grading

### Evaluation Criteria Table

The final grades will be based on the following categories:

CATEGORY	WEIGHT
Quizzes	15%
Assignments	10%
Labs	30%
Final Project	30%
Final Exam	15%
<b>Total</b>	<b>100%</b>

Note: Students are responsible for abiding by the Plagiarism Policy.

**Grade Conversion Table**

The final grades will be calculated from the percentages earned in the course, as follows:

A	90–100%	4.0
B+	85–89%	3.5
B	80–84%	3.0
C+	75–79%	2.5
C	70–74%	2.0
D+	65–69%	1.5
D	60–64%	1.0
F	<60%	0.0

*(End of Syllabus)*