DDGT-241: DIGITAL DESIGN GRAPHICS TECHNOLOGY 4

Effective Term
Fall 2026

CC Approval
11/07/2025

AS Approval
11/13/2025

BOT Approval
11/20/2025

COCI Approval
12/15/2025

SECTION A - Course Data Elements

CB04 Credit Status
Credit - Degree Applicable

Discipline

Minimum Qualifications
Drafting/CADD (Computer Aided Drafting/Design) (Any Degree and Professional Experience)

Subject Code
DDGT - Digital Design Graphics Technology
Course Number
241

Department
Digital Design Graphics Technology

Division
Career Education and Workforce Development (CEWD)

Full Course Title
Digital Design Graphics Technology 4

Short Title
Digital Design Graphics Tech 4

CB03 TOP Code
0953.00 - *Drafting Technology

CIP Code
15.0301

CB08 Basic Skills Status
NBS - Not Basic Skills

CB09 SAM Code
B - Advanced Occupational

Rationale
CTE course review per Title V requirement.

SECTION B - Course Description

Catalog Course Description

This capstone course in the Digital Design Graphics Technology A.S. Degree sequence focuses on advanced techniques in 3D animation, video editing, and compositing. Topics include video compositing and motion graphics using Adobe After Effects, as well as point cloud data acquisition and processing through 3D scanning technology and Trimble RealWorks software. Students complete a collaborative group project demonstrating skills acquired throughout the program and develop a professional resume and portfolio, including an animated demo reel, published to their student website.

SECTION C - Conditions on Enrollment

Open Entry/Open Exit

No

Repeatability

Not Repeatable

Grading Options

Letter Grade Only

Allow Audit

Yes

Requisites

Prerequisite(s)

Completion of DDGT-240 with a minimum grade of C.

Requisite Justification

Requisite Description

Course in a Sequence

Subject

DDGT

Course #

240

Level of Scrutiny

Content Review

Upon entering this course, students should be able to:

1. Ability to create lofted objects
2. Ability to create and edit 3D objects
3. Ability to create and play animations
4. Ability to perform video post operations

SECTION D - Course Standards

Is this course variable unit?

No

Units

7.00

Lecture Hours

54.00

Lab Hours

216.00

Outside of Class Hours
108

Total Contact Hours
270

Total Student Hours
378

Distance Education Approval

Is this course offered through Distance Education?
Yes

Online Delivery Methods

DE Modalities	
Entirely Online	Permanent
Hybrid	Permanent
Online with Proctored Exams	Permanent

SECTION E - Course Content

Student Learning Outcomes

	Upon satisfactory completion of the course, students will be able to:
1.	Demonstrate proficiency with AutoCAD tools and commands to earn an Autodesk Certificate of Training.
2.	Apply technical skills in video compositing utilizing the Adobe After Effects software.
3.	Create a portfolio video utilizing all programs and skills learned in the DDGT program.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1.	Effectively implement advanced skills utilizing CAD software.
2.	Create complex three-dimensional models.
3.	Successfully rig and animate complex assemblies for animation purposes.
4.	Implement their knowledge of mechanical assemblies into video animation.
5.	Create and animate particle systems.
6.	Utilize multi-pass rendering techniques to create and render out professional level animations as frames.
7.	Effectively use digital visual effects, motion graphics, and compositing software.
8.	Perform video post-production operations.
9.	Utilize Autodesk and Adobe software in the same three-dimensional environment.
10.	Successfully work with multiple audio and video tracks in a non-linear video editor or compositor.
11.	Successfully work in a group project.
12.	Organize a large-scale project to successfully meet milestones and deadlines.
13.	Properly maintain an organized file folder-structure.
14.	Maintain proper file backups for large scale projects.
15.	Work on individual tasks while working as a group.
16.	Create and post a professional level website showcasing their final project.
17.	Create a professional level video and post it on their project related website.
18.	Take Autodesk Certified Professional level exams.

Course Content

1. Advanced Working Drawings
    a. Creation of Working Drawings of Advanced Assemblies in AutoCAD and Inventor
2. 3ds Max

   a. Review
   b. Project Setup
   c. Importing and Layer Management
   d. Bones
   e. Linking
   f. IK Chain
   g. Advanced Object Creation
   h. Constraints
   i. Multipass Rendering for Compositing Post Production
3. AutoCAD Review for Certification
   a. Basic Object Creation
   b. Drawing With Accuracy
   c. Cartesian Workspace
   d. Object Modification
   e. Additional Drawing Techniques
   f. Organize Objects
   g. Reuse Existing Content
   h. Blocks and Dynamic Blocks
   i. Block Attributes
   j. Defining and Extracting Attributes
   k. Attaching and Modifying External References
   l. Design Center
   m. Annotate Drawing
   n. Layouts and Printing
   o. Advanced Viewport Options
   p. Printing to DWF
4. AutoCAD Advanced
   a. Advanced Text Objects
   b. Annotation Scale Overview
   c. Working With Tables
   d. Linked Tables
   e. Table Styles
   f. Creating Dynamic Blocks
   g. Dynamic Block Authoring Tools
   h. Block Attributes (Inserting, Defining, and Modifying)
   i. Output and Publishing (DWF's and Design Review)
   j. Tools for Collaboration (eTransmit and Hyperlinks)
   k. Cloud Collaboration and 2D Automation
   l. Introduction to Sheet Sets
   m. Publishing and Customizing Sheet Sets
   n. Managing Layers
   o. Layer Properties Manager
   p. Layer Filters and Layer States
   q. CAD Standards (Setup, Configuration, Verification)
   r. System Setup
   s. Introduction to Customization
   t. Customizing User Interface
   u. Macros and Custom Routines
5. Video Editing Compositing
   a. After Effects and Compositing Overview
   b. User Interface
   c. Project Management
   d. Importing Multipass Renders
   e. Compositor Link
   f. Effects
   g. Keyframing
   h. Output Settings and Options (HD vs UHD)

6. Final Project
    a. Project Overview
    b. Story Outline
    c. Gantt Chart Creation and Management to Meet Milestones and Deadlines
    d. Storyboarding
    e. File Management of Large Scale Projects
    f. Large Scale Project Backups
    g. Working in a Group
    h. Project Leadership
    i. 3D Modeling
    j. Materials
    k. Lighting
    l. Rigging
    m. Cameras
    n. Animation and Keyframing
    o. Rendering
    p. Video Editing and Compositing
    q. Website Creation for Final Project
    r. Posting of Final Video on Department Website

Methods of Instruction

Methods of Instruction

Types	Examples of learning activities
Discussion	Students will have multiple discussions as a group with and without the instructor regarding the final project.
Individualized Instruction	There will be portions of the final project that will be worked on by students individually as tasks are relegated out. Each student will need individualized instruction and direction as they oversee these tasks.
Lecture	Instructor lectures on assigned readings following industry standards and on Autodesk approved courseware.
Observation and Demonstration	Instructor provides computer demonstrations of best practices utilizing the class software for given assignments.
Other	Class lectures and demonstrations are recorded and posted online as a student resource.

Online Adaptation

Types	Examples of learning activities
Activity	Students complete Autodesk and Adobe software exercises from approved courseware, including 3ds Max animation, After Effects compositing, and multi-track video editing in Adobe Premiere.
Discussion	Students post draft animation sequences or composited clips for peer and instructor feedback, focusing on technical accuracy, visual quality, and storytelling.
Lecture	Recorded demonstrations of advanced animation workflows, compositing effects, and professional video post-production techniques, with embedded quizzes to assess comprehension.

Instructor-Initiated Online Contact Types

Announcements/Bulletin Boards
Chat Rooms
Discussion Boards
E-mail Communication
Telephone Conversations
Video or Teleconferencing

Student-Initiated Online Contact Types

Chat Rooms
Discussions

Group Work

Course design is accessible
Yes

Methods of Evaluation

Methods of Evaluation

Types	Examples of classroom assessments
Quizzes	Written exams and quizzes will be given to test student knowledge on software and technical skills. Exams and quizzes will contain short answer, multiple choice, and true and false.
Projects	Projects -- Students will work in a group for the Final Project assignment - the creation of a professional video showcasing all of the skills they have learned in the program. Students will create and post a website showcasing the final video and detailing the work involved in the making of the Final Project. Group Projects -- Students will work in a group for the Final Project assignment - the creation of a professional video showcasing all of the skills they have learned in the program. Students will create and post a website showcasing the final video and detailing the work involved in the making of the Final Project.
Homework	Homework can be found on the assignment list handed out on the first day of class or on the department website. Homework assignments will be submitted one of the following ways: digitally, printed, or require a visual checkoff. Homework assignments will demonstrate the student's ability to successfully utilize the software and demonstrate the student's skill set. 3D Animations will be created to showcase student's skills and knowledge.
Exams/Tests	Standardized instrument objectively measuring student knowledge -- Autodesk Certified Professional Examinations.

Assignments

Reading Assignments
Usage of Autodesk approved courseware is required under the terms of the Autodesk Training Center agreement. Reading assignments are contained in each individual section of the Autodesk approved courseware licensed from Ascent.

Writing Assignments
Students will write descriptions of the Final Project story, outline, the overall process, challenges that needed to be overcome, and their individual contributions which will be placed on the Final Project website.

Students will write and submit a review of the Final Project upon completion of the project including their insight on what went well, what did not, and what they specifically contributed.

Outside-of-Class Assignments
Students will create a series of drawing files for digital submission or for hard copy printed submission.

Critical thinking to solve drafting problems in CAD.

Students will create an animated video showcasing a technical assembly. The video will be complete and professional with titles and branding. Video will be posted on their portfolio website.

Students will work in a collaborative group project to create their final project. The final project will be to create a professional level video showcasing the skills they have learned over the four semesters in the Digital Design Graphics Technology program. Students will learn how to properly manage files, file backups, organize their time to reach milestones and complete the assignment on time, create outlines and storyboards specifically for the needs of a group project. The final project will also incorporate special effects and compositing. The final video will be posted on a website dedicated to this project that will showcase the video, each member and their contributions, and a short description of skills learned and challenges they overcame.

SECTION F - Textbooks and Instructional Materials

Material Type
Textbook

Author
Bertoline, G.,R., Wiebe, E.,N., Hartman, N.,W., Ross, W.,A.

Title
Technical Graphics Communication

Edition/Version
5th

Publisher
McGraw-Hill

Year
2022

Material Type
Other required materials/supplies

Description
Software #1:
Title: AutoCAD
Publisher: Autodesk
Edition: Latest
Software #2:
Title: Inventor
Publisher: Autodesk
Edition: Latest
Software #3:
Title: 3ds Max
Publisher: Autodesk
Edition: Latest
Software #4:
Title: Photoshop
Publisher: Adobe
Edition: CS6 or higher
Software #5:
Title: Dreamweaver
Publisher: Adobe
Edition: CS6 or higher
Software #6:
Title: Premiere
Publisher: Adobe
Edition: CS6 or higher
Software #7:
Title: After Effects
Publisher: Adobe
Edition: CS6 or higher

Material Type
Other required materials/supplies

Description
1. 2" binder.
2. 3" binder or two 1.5" binders.
3. An external hard drive.
4. Headphones.

SECTION G - Diversity, Equity and Inclusivity

How does your course and/or course outline of record reflect strategies for accommodating and engaging diverse student populations, advancing equitable outcomes, and fostering inclusion for all students?

This course is taught in a high-flex format, allowing students to participate in person, online, or through a combination of both, providing flexibility for diverse learning needs and personal circumstances. Multiple instructional methods, such as live demonstrations, recorded lectures, guided practice, and hands-on lab activities, ensure accessibility for varied learning styles and abilities. Students collaborate on a large-scale final project, producing professional animations, videos, and online portfolios that showcase industry-ready skills for a global audience.

Course Codes (Admin Only)

CB00 State ID

CCC000317217

CB10 Cooperative Work Experience Status

N - Is Not Part of a Cooperative Work Experience Education Program

CB11 Course Classification Status

Y - Credit Course

CB13 Special Class Status

N - The Course is Not an Approved Special Class

CB23 Funding Agency Category

Y - Not Applicable (Funding Not Used)

CB24 Program Course Status

Program Applicable

Allow Pass/No Pass

No

Only Pass/No Pass

No