



# Digital Design Graphics Technology

## DDGT 130 Introduction to 3D Printing

### Spring 2023 Course Syllabus

**Instructor:** Gary Strommen

**Websites:**

Department Website: [www.ddgt.net](http://www.ddgt.net)

Canvas Website: [www.napavalley.instructure.com](http://www.napavalley.instructure.com)

**Location:** 3902

**Course Length:** 18 weeks

**Times:** M+W: 6:00pm – 8:15pm

**Units:** Three

**Prerequisites:** None

**Office:** Room 3901B (Inside Drafting Lab, Building 3900)

**Office Hours:** Mondays, Tuesdays, Wednesdays, and Thursdays:  
8:00am-8:45am; 12:15pm-12:45pm

**Lab Hours:** Mondays, Tuesdays, Wednesdays, and Thursdays:  
8:00am – 1:00pm

Fridays: Announced as available or by appointment

**DDGT Technician Hours:** N/A

**Telephone:** Classroom: (707) 256-7526  
Cell / Text: (707)-332-0873

**Email:** [ddgt@napavalley.edu](mailto:ddgt@napavalley.edu)  
[gstrommen@napavalley.edu](mailto:gstrommen@napavalley.edu)

*This syllabus is subject to change at teachers discretion.*

### **Course Description:**

This course focuses on 3D Modeling and 3D Printing for the beginner and those currently in industry. This course will cover the study of additive manufacturing as it pertains to 3D Printing. Topics covered include 3D Parametric Modeling, 3D Printing applications, and the advantages and limitations of 3D printing technology. Students will learn how to create three-dimensional parts and assemblies using the current version of the Autodesk Fusion 360 software specifically for 3D Printing. This course also provides the opportunity for students to earn the Autodesk Certificate of Training and to prepare for the Autodesk Certified User exam.

### **Student Learning Outcomes:**

SLO1: Autodesk Certificate of Training: Fusion 360 Introduction to Parametric Modeling  
SLO1 Assessment will be based on the Ascent Quiz.

SLO2: Implement technical skills in the creation of 3D parts and assemblies utilizing the Autodesk Fusion 360 software.  
SLO2 Assessment will be based on your 3D Printed projects.

**Course Objectives:** Upon successful completion of this course, the student will be able to:

1. Explain current and emerging 3D Printing applications in a variety of industries.
2. Describe the advantages and limitations of various 3D Printing technologies.
3. Identify opportunities to apply 3D Printing technology for time and cost savings.
4. Discuss the economic implications of 3D Printing.
5. Effectively use the latest release of the Autodesk Fusion 360 software program in a three-dimensional workspace.
6. Perform various geometric constructions.
7. Construct and edit two-dimensional and three-dimensional CAD entities.
8. Construct multi-view drawings utilizing orthographic projection.
9. Place and edit detail drawing annotations.
10. Print hard copies of detail drawings.
11. Design and 3D Print objects containing moving parts without assembly.

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**Required Texts:**

ASCENT:  
Autodesk Fusion 360 – Introduction to Parametric Modeling

**Required Materials:**

Three-ring, 2” binder  
Headphones

If you are attending online:

Webcam (this is the one I am using):

[https://www.amazon.com/gp/product/B07K986YLL/ref=ppx\\_yo\\_dt\\_b\\_search\\_asin\\_title?ie=UTF8&psc=1](https://www.amazon.com/gp/product/B07K986YLL/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1)

Microphone: (this is the one I am using):

[https://www.amazon.com/gp/product/B0779PKLV9/ref=ppx\\_yo\\_dt\\_b\\_search\\_asin\\_title?ie=UTF8&psc=1](https://www.amazon.com/gp/product/B0779PKLV9/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1)

**Recommended Materials:** Headphones

Lock for lockers

**Required Software:** You will need the latest release of Autodesk Fusion 360 - students will be given access to download the software and install it at home on up to two Windows PC's for free.

<https://www.autodesk.com/education/edu-software/overview?sorting=featured&page=1>

Note: DO NOT google search for the software and download the free “Hobby” version of the software. It will NOT work for the purposes of this class.

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## **Grading Policy:**

Students are responsible for completing any reading assignments prior to the next class meeting. Any graded coursework not performed with assigned and/or required equipment will be marked down accordingly. Letter grades are assigned as follows:

A	90-100%
B	80-89%
C	70-79%
D	60-69%

Final course grades are determined as follows:

<a href="#">ASCENT Assignments</a>	25%
<a href="#">3D Printed Project 1</a>	5%
<a href="#">3D Printed Project 2</a>	10%
<a href="#">3D Printed Project 3</a>	15%
<a href="#">3D Printer Technology Research Presentation</a>	5%
<a href="#">Discussions</a>	5%
<a href="#">Classroom participation</a>	10%
<a href="#">Quiz scores</a>	15%
<a href="#">Final examination</a>	10%
Final course grade	100%

You can login online to Canvas at any time to see your current grade.

All courses required to complete the DDGT AS Degree or Local Skills - Certificates of Achievement must be completed with a grade of C or better.

## **ASCENT Assignments:**

You will be asked to work on multiple assignments at once. Assignments may be turned in as many times as necessary to earn full credit unless there is a due date associated with the assignment. Some assignments may have a due date and it will be posted on our department website, on our "Assignment List" handout, or on the board at the front of the class when assigned. Any assignments turned in after the due date will be penalized 12.5% - you will only be able to receive a maximum of 87.5% on that assignment.

## **3D Printed Projects:**

You will be allowed to print up to 60 cubic inches of material (including support material) on your various 3D Printed projects. You will be graded on meeting your deadline, originality, creativity, design complexity, your use of material, and how successful you were to reaching your goal.

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### **3D Printer Technology Research Presentation:**

You will research and present your findings on a new use for 3D Printing used in any industry. Your presentation will be roughly 15 – 20 minutes in length and may include videos or other visual aids. You will be graded on how prepared you are, the topic of your presentation, and your use of presentation materials.

For those attending Asynchronously, we will discuss alternative options for your presentation.

### **Discussions:**

Discussions will be posted and submitted through Canvas. You will post progress of your 3D Printed projects on Canvas for other students to give you feedback and suggestions.

Discussions are worth 5% of your final grade.

### **Class Participation**

Class participation is a maximum of 10 points and this is 10% of your final grade.

Students are expected to participate fully in all class activities including (but not limiting to) assignments, lectures, group activities, and peer critiques either during class or online via Canvas.

For students attending Synchronously, participation also includes turning your webcam on (use your cell phone if you do not have a webcam) and participating in class.

For those students attending Asynchronously, participation will include your postings via Canvas.

### **Quiz Scores:**

Quizzes are to be taken online through Canvas. All quizzes will be open book. Students will have one week to take the quiz after the course material has been covered during class lectures. Quizzes will have time limits so make sure you set aside a time when you will not be distracted or pulled away from the quiz.

If you are in need of special accommodations through DSPS, please notify instructor in advance.

There are no makeups for missed quizzes unless you contact me prior to the quiz AND you are sick or there is an emergency.

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**Final Exam:**

The Final Exam is worth 10% of your final grade. The Final will be taken online through Canvas and will be open book. The Final will have a time limit so make sure you set aside a time when you will not be distracted or pulled away from the exam.

**Online Resources:**

If you are unable to attend class, or wish to review course material, you may watch our recorded video lectures placed online at our department website:

<http://www.ddgt.net/ddgt130.html>

Lectures are recorded daily and are usually uploaded within 24 – 48 hours.

Lectures are password protected. Please contact the instructor for the password.

Class documents and assignments are also available for download on the same page.

## **Academic Honesty**

Students are prohibited from sharing their username and password with anyone. Students shall not allow other students or others not enrolled in the course to access course materials or lab computers without instructor's permission. Allowing anyone else to access your account may result in failing the course.

All students are expected to complete their own work and all written work must be original. Work cited from other sources must be cited properly using quotations marks and references as appropriate. Plagiarism in any form will not be tolerated and will result in no credit for the assignment. Subsequent incidents of plagiarism may result in failing the class and a referral to the vice-president of student services for formal discipline. Students are expected to take all course exams individually. Cheating includes accessing test information in any way that is not approved by the instructor or sharing test information with another student in any way not approved by the instructor. Cheating on a test shall result in a failing grade on that test. Subsequent incidents of cheating may result in failing the class and a referral to the vice-president of student services for formal discipline.

If you have been found cheating, you will receive no credit for that test or assignment. If it is found that have copied an assignment from another student in the class, then both parties will receive no credit for that test or assignment.

## **Attendance Information:**

Students are ultimately responsible for dropping the class should they wish to no longer participate or to even start the class once registered. The instructor is not obligated to drop students at any point in the course.

If you have a disability that requires accommodations, please let me know as soon as possible and I will provide you with the information you need to receive services. You may also contact the Office of Special Services (DSPPS), Bldg. 1700, at (707) 253-3080, or make an appointment in the Counseling Center (Bldg. 1300) to meet with a DSPPS Counselor, (707) 253-3040.

### **Drafting Lab Etiquette and Policies:**

Note: Due to Covid, I will ask that you sit at the same workstation every class. I will ask that you do not sit at computer workstations that have already been reserved by students in other classes. This way, no one will be sitting at your workstation except you and we can prevent the spread of germs.

1. Lab computers are to be used for DDGT course purposes only. **Working on projects for other classes during your class time is not allowed.** (Some open lab time, other than your scheduled classes in DDGT may be made available to you. At these times, you may request to use a workstation for other class work. This type of use will be on a case by case basis and you must receive prior approval from the instructor before using the Open Lab time for other than DDGT projects.)
2. Lab computers are used by many other students during the day. Do not adjust or customize the display (monitor) or the workings of the computer in any way. This includes background wallpaper on the desktop and resolution settings of the display adaptor or adjustment of the actual computer monitor hardware. (If you need special accommodation for a visual problem or otherwise, make a request and we will review your consideration.)
3. Lab computers are used by many other students during the day. Please shutdown your computer before leaving for the day. You may leave the computer monitors on as they will go into "Stand By" mode.
4. Internet access is a privilege. Do not access questionable websites. Do not download and install any software or games. Access to the internet is limited to needs for projects in the DDGT Courses. Any other access is not allowed without permission. (On occasion, you may request to access the Internet for personal use. If your request is granted, it does not override the directive regarding software/game downloads or installations. You will need to clear this type of use on a case-by-case basis.)
5. The DDGT lab computers are for learning and studying. Do not play computer games of any kind on the DDGT Lab Computers. Playing solitaire and the like on the DDGT computers is not allowed. Unless by chance you have created the artwork and programmed a computer game as part of a DDGT course project, there will be NO computer games played in this lab. Playing computer games is something that you can do at home, on your own computer, in your own time.

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6. Do not touch the computer monitor screen with any items or especially with your fingers. There is absolutely no reason why anyone needs to touch the monitor screens. If you wish to point out something on your screen to another person, POINT WITHOUT TOUCHING! If you cannot seem to help yourself, use the eraser end of your pencil to point with and do not touch the screen with that either! If your monitor is found to be all fingerprinted up, you will lose the access to the DDGT Lab Computers. If you happen to accidentally touch the screen, you may use the cleaning spray and cloths available to you in the lab. DO NOT use any other cloth except for the ones designated to you. If you are unsure, ask the instructor or DDGT Technician for assistance.
7. Each student is required to clean their CAD workstation before leaving the classroom at least once a week or as needed. Ask Instructor or Assistant for cleaning supplies.
8. Please keep in mind at all times that computer use in this lab is not your private business. All access on this network is logged and may be reviewed at any time. The activity on your screen when you are working in this network can and may be recorded for later review as well.
9. Please set cell phones to “vibrate” during class times. Take all phone calls outside. Do not take phone calls during lecture or demonstrations unless it is an emergency and do so quietly. Keep in mind that you may miss vital information during a lecture.
10. Students may keep drinks / food at designated areas at the back of the room. Water in a closed container may be kept by students on the floor at work area. Please eat outside or in the kitchen area. Privileges may be revoked at any time if policies are abused. Any garbage that has food in it should be disposed of in the garbage cans **OUTSIDE** of the building (there are garbage cans located on the north and south ends of the building). No gum chewing allowed in class.
11. Talking during a lecture other than to a student to clarify something that is not clear will not be permitted. If you do not understand something, ask the instructor. I will be more than happy to assist you. If your question is not answered, come and see me after the lecture and we will go over the topic until everything is clear.
12. The rest rooms are located on the north end of the building. You may leave the class at any time to use them without asking permission. Keep in mind that you may miss vital information during a lecture.
13. Lab hours are available regularly. It is highly recommended that you take full advantage of the CAD workstations during these times.
14. Lockers are available at the back of each room for your convenience. Do not utilize the lockers during other classes. You will be required to supply your own padlock. Note: Locks are to be removed at the end of the semester.

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15. If you know that you will be tardy or absent, you must contact the instructor of your class to let them know ahead of time.
16. In the event of a major disaster or emergency, the instructor is to lead the students to the grassy area between the 1700 and the 2000 (between the new library and science buildings) or to the sports track.
17. Scent Free Zone. The chemicals used in scented products can make some people sick, especially those with fragrance sensitivities, asthma, allergies and other medical conditions. Please do not wear perfume, cologne, aftershave, and other fragrances. Please use unscented personal care products.
18. Failure to comply with any of these directives will result in immediate suspension of DDGT Lab Computer privileges!

### **Online Lab Etiquette and Policies:**

19. Please keep in mind that at all times the webcam you are using is being recorded and you should refrain from utilizing your computer for private business. The activity on your screen when you are working in this class can and may be recorded for later review as well.
20. When attending class meetings online using Zoom or a similar technology, students are expected to conduct themselves and participate as if they were in a live classroom. This means students must at least have a working microphone and use it to participate in discussions and to respond to questions posed by the instructor. The online live class experience is more effective with a working camera and students are strongly encourage to participate in live class sessions with their cameras turned on. Participation in live class meetings is part of the student's participation grade.
21. Normally, live class sessions conducted on Zoom will be recorded. Assume that all class sessions will be recorded. Access to recordings of class sessions is restricted to class members only and not available for download, duplication, or distribution in any manner.
22. In accordance with Napa Valley College Board Policies D1130, the Student Code of Conduct, and applicable state and federal laws, discrimination based on gender, gender identity, gender expression, race, nationality, ethnicity, religion, sexual orientation, or disability is prohibited in any form.
23. **Students are encouraged to participate fully in class discussions and to engage other students and the instructor in honest productive discussions. All interactions online shall be professional and respectful.**

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### **Other Notices of Importance:**

#### **Students in need of accommodations in the college learning environment:**

Any student who feels they may need an academic adjustment based on the impact of a learning disability should contact Learning Services in the Library room 1766, phone (707) 256-7442. A Learning Disability Specialist will review your needs and determine appropriate accommodations.

Any student who feels they may need an academic adjustment based on the impact of a physical or other types of disabilities, may schedule an appointment with a DSPS Counselor, Tyler Downie, located in Counseling Student Affairs 1300 building, phone 256-7442 or 256-7345 for appointment. You will be asked to submit any medical/disability documentation prior to your appointment.

All information and documentation is confidential. Please feel encouraged to make an appointment with me privately to discuss your specific learning needs in my class if needed, and to ensure I received your academic adjustment letter.

I encourage students who have requested extended time for testing as an academic adjustment(s)/accommodations through DSPS or Learning Services please check in with me (in person or via email) that I have received a letter and discuss when you will be taking your exams.

#### **Students in need of Writing and Research help:**

Any student who feels s/he may need assistance with grammar, writing, and formatting should contact the Writing Success Center in room 832 (Catacula Hall), phone (707) 256-7640 or Library Services for research help in the Library and Learning Resource Center 1700 building, phone (707) 256-7400. A Specialist will review students' needs and determine appropriate assistance. Appointments available. Students may also receive assistance from an online tutor via SmartThinking by starting at:

<http://www.napavalley.edu/academics/WritingCenter/Pages/SmartThinking.aspx>

#### **Students in need of Canvas support:**

"Napa Valley College provides technical, administrative and software support for students participating in distance learning and courses utilizing Canvas. Students should contact Brandon Tofanelli, phone (707) 256-7154 or email: [btofanelli@napavalley.edu](mailto:btofanelli@napavalley.edu) for assistance.

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**Student Services; College Policies and Procedures**

<http://www.napavalley.edu/studentaffairs/SRR/Pages/default.aspx>

**Important College Numbers (707 area code)**

Admissions & Records	256-7200
Career Center	256-7327
Financial Aid/EOPS	256-7300
Child Development Center	253-3046
Counseling Office	256-7220
Student Services	256-7360
Special Services	253-3080
Testing & Tutoring Center	256-7437
Transfer Center	256-7333
Welcome Center	256-7215

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