DAVISTECH
DAVIS TECHNICAL COLLEGE

AEID 0000 Architectural & Engineering Design Program Orientation

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Introduction

Welcome to the Architectural and Engineering Design program at the Davis Technical College (Davis Tech)! The purpose of this program orientation is to familiarize you with information specific to the program and its unique policies and procedures. You are required to read this document thoroughly and discuss any unclear sections with your instructor or a Career and Academic Advisor. You may also review college policies on the Davis Tech website (www.davistech.edu), or in Student Services.

Program Description

The Architectural and Engineering Design program prepares students for a wide variety of positions working for architectural, mechanical, structural, machine and manufacturing companies. Throughout the course of the program students are immersed in curriculum which exposes them to a variety of software related to the design industry such as: AutoCad, Revit and Solidworks.

Students in the program are able to specialize in Architectural or Mechanical Design. Students will become familiar with, and demonstrate competency in usage of drafting symbols, units of measurement, scales, notation systems, 2D and 3D layouts, layering, proper page orientation, and perform revisions on drawings or schematics.

Upon completion of this program students will have developed a strong working knowledge of the software, approaches to computer aided design and graphic communication skills. Students are then positioned to become leaders in parametric modeling and building information modeling, both key components for successful careers in an industry experiencing phenomenal growth and development.

Program Objectives

Students are provided the opportunity to learn and master various concepts through extensive hands on practice, detailed instructional videos, informational write-ups, and project based competency tests. Upon completion of this program, or a given certificate, students will have received specialized training in Architectural and Engineering Design. Students will learn and apply the following while enrolled in the Architectural and Engineering Design program:

Core Objectives:

- Develop an understanding of general computer use and standard workflows when using CAD software
- Develop a general knowledge of the Architecture and Engineering design industries
- Use typical software currently utilized in industry to create working drawings
- Utilize Industry standard requirements for construction/working drawings
- Demonstrate respect and a collaborative attitude when critiquing others and when receiving critique
- Apply feedback received in critique to improve designs, and apply principles discussed in critique to subsequent design problems.
- Apply design thinking to a real-world problem and propose a solution
- Use analogue and digital tools to communicate your designs
- Create or modify your designs to respond to issues of sustainability, accessibility, historical preservation, health and social justice
- Apply research, problem solving skills, and the iterative process to ideate, develop and improve your designs
- Through problems, the student will develop an understanding of the basic functionality of a CAD system
- Develop essential job seeking, interviewing, and marketing skills
- Develop a portfolio of work which can be used to market skills and accomplishment
- Study orthographic drawings, hidden lines, section views, auxiliary views, reading and interpreting drawings

Elective Objectives:

- Prepare construction drawings for residential and small commercial projects
- Read and interpret building plans, sections, elevations, assemblies, and details
- Study and develop supplemental floor plan drawings such as electrical, plumbing, and HVAC
- Develop an understanding and refinement of fundamental CAD skills as they relate to the Architecture industry
- Utilize Virtual 3D modeling to incorporate industry best practices of Building Information Modeling (BIM) into the design process
- Create computer generated renderings and presentations from 3D virtual models and construction drawings
- Create and utilize parametric family models and cross platform workflows
- Coordinate a drawing set with architectural, structural, mechanical, and electrical plans
- Gain an appreciation for the sustainability movement, and learn the requirements to meet certifications when constructing buildings in today's economic environment
- Gain detailed insight into the mechanical design industry and learn the requirements for drafters and modelers
- Be exposed to the various drafting and design fields of study
- Develop, Modify, and Plot CAD drawings
- Develop 3D parametric models using industry standard software
- Utilize industry standards for dimensioning systems, tolerances, symbols, specifications in construction ready drawings

- Through modeling these parts in 3D software the student will learn about various mechanisms, linkages, cams, gears, bearings, belts, and chain drives
- Learn sheet metal manufacturing procedures
- Learn the process of designing, prototyping, and by using 3D printer technology
- Learn the process of preparing an object for fabrication in a CNC machine shop

General Information

You can access this orientation on the Davis Tech program web site, as well as current information on the following items:

- Admission Requirements
- Classroom Availability
- Training Location
- Graduation Requirements
- Course Descriptions
- Program Requirements
- Gainful Employment Disclosures
- Estimated Cost (*tuition, fees, program and course materials*)
- Financial Aid
- Credentials
- Job Outlook
- Transfer Options
- Academic Agreements
- Industry Licensing and Certification

Advisement

Teacher advisement is important for your success at Davis Tech. Students who receive regular advisement are more likely to achieve their goals and complete their training program on schedule. Your instructor is also available to meet with during the advisement hours listed at the beginning of this orientation. These meetings are used for you and the instructor to accomplish the following tasks:

- Update contact information in Northstar, the Student Information System.
- Review performance and attendance.
- Define and clarify training and career goals.
- Select appropriate courses according to interest and aptitude.
- Select courses that achieve program completion requirements.
- Discuss professional work ethic in performance, attendance, attitude, dress, behavior, and communication.
- Discuss challenges with referral to appropriate institutional support systems that can help improve your success.

Competency-Based Training

Davis Tech courses are competency-based, requiring you to demonstrate your knowledge and skill according to industry-based objectives and performance standards. Course lengths are based on actual clock-hours and are calculated on the average length students are expected to complete designated course work. At the beginning of each course, you will receive course curriculum which

provides guided learning modules for you to follow. This includes the amount of time that should be spent on each learning activity. Because Architecture and Engineering design firms typically function with deadlines in mind, this approach is designed to mimic the typical time standards and deadlines the student will eventually experience.

Scheduling

Courses in this program have an Open-start/Defined-end schedule. An orientation will be held the first Monday of every month, which will detail many of the program policies and allow you to get to know the faculty. You must attend this orientation before you may enroll in your first course.

Following course enrollment, you will receive a schedule that shows the date by which the course must be completed. If you fail to complete a course by the end date, you will be required to re-enroll and repay for the course. This type of scheduling is also referred to as course based because courses are paid for one at a time.

Campus Technology

Each time that you attend class, you will log in to and out of the Northstar Classroom Login Station using your 10-digit student number. You were given this number when you completed the Davis Tech enrollment process. You will use your student number to access the Student Portal as well. Your instructor will provide you with information on Canvas access.

You can access Canvas from any internet-connected computer at the following URL: https://davistech.instructure.com/login. If you have problems logging in to Canvas, please see your instructor or email online.support@davistech.edu. If you encounter technical problems while in Canvas, use the Help button in Canvas and the "Report a Problem" link. A general orientation to Canvas can be found in the New Student Orientation, but faculty will also offer an orientation specific to technology in your program on your first day of class.

Learning Resources

Student Resource Center

The classroom includes a Student Resource Center where you will find industry publications, periodicals, manuals, media materials. In addition, you will be given opportunities to use equipment and materials, such as computers with Internet access and software applications that are currently being used in industry.

Electronic Student Resources

Your Canvas orientation course contains electronic learning resources that can be used throughout your time in the program. Each canvas course links to these resources, and they will be updated regularly. If you find a frequently used resource (website, video, tutorial, etc.) that you think would be helpful for other students in your program, consider sharing the link with your instructor.

First Aid Supplies

The classroom also includes first aid kit, and other supplies needed in case of emergency. Evacuation maps can be found in strategic locations throughout the college.

Students with Disabilities

If you have a disability that may require accommodations, contact and work through the counseling service located in Student Services.

Performance Standards

Students are expected to complete course work according to a timeline in the course curriculum. The timeline shows the maximum number of hours it should take you to complete each module of the course. If you are not able to maintain this progress you should meet with the instructor or college counselor. Periodic meetings and conversations with the instructor are encouraged so an understanding of student progress can be fostered.

Grading

Every course in the Architectural and Engineering Design program consists of a series of modules. Each module contains content that requires study from a textbook, watching software demonstration videos, answering questions, and working a series of problems through the software. Each module completed must demonstrate a competency of 80 percent or higher.

Each course in the training program has a final exams designed to test your knowledge and skill level of the material and/or software. You must receive a score of 80 percent to pass. If you feel you are knowledgeable enough to take the competency tests, you must first ask the instructor for permission to take them. You must then achieve a score of 90 percent.

Grade Scale:

A	95-100%	A-	94-90%	B+	87-89%
B	83-86%	B-	80-82%	C+	77-79%
C	73-76%	C-	70-72%	D+	67-69%
D	63-66%	D-	60-62%	F	0-59%

Citizenship:

Honorable	95-100%	Satisfactory	83-94%
Needs Improvement	73-82%	Unsatisfactory	72% or below

Grades will be calculated using the following criteria:

Tests/Assignments: Your score divided by the total possible points (see Canvas).

ReTakes: Your score divided by the total possible points (see Canvas) minus 6% for each time the course had to be retaken.

Progress

Progress is calculated by the number of scheduled hours versus the amount of coursework completed. Progress must be maintained at 100 percent or better. If you have difficulty meeting the progress requirement, you are encouraged to talk to your instructor. Failure to maintain the required progress standard, or failure to complete a course by the end date will result in academic corrective action being taken.

Attendance

The Architectural and Engineering Design program requires 85 percent minimum attendance. Attendance is calculated using the number of scheduled hours versus the number of hours you are present in the classroom. In order to meet this requirement, you must come in on the days and times that you are scheduled. Your attendance requirement may be higher depending on any sponsorship or financial aid stipulations that apply to you. You must log in and out of Northstar each time you attend class, so your attendance is documented.

You should talk to your instructor when an absence is necessary. Excused absences will be given for job related activities, Davis Tech sponsored activities, off-site training, or high school activities. If you require an extended absence from the program, you should consult with a counselor in Student Services.

Regardless of scheduled hours, you must attend class a minimum of one day per week. If you are absent for ten consecutive scheduled days, you will be withdrawn from Davis Tech. Failure to meet the required attendance standard will result in academic discipline. In accordance with the College Student Records Policy, student attendance information may be released to potential employers.

Academic Performance & Discipline

Your success in this program is important to us. We will work with you to help you succeed, but if we feel that you are not meeting the minimum standards as described in this orientation, we are committed to taking appropriate actions to help you improve.

High school students must meet minimum standards in grading, progress, and attendance before transitioning into a place in the program as an adult student. These standards are established by the program and may differ across the college. In the Architectural and Engineering Design program, a high school student, who will become an adult student, should meet he following minimum standards:

Attendance: 85 percent   Progress: 85 percent   Grade: 85 percent

If you do not meet Davis Tech or Architectural and Engineering Design performance standards, you will be subject to academic discipline. Reasons for academic discipline include but are not limited to violations of Davis Tech or program policies and procedures, violations of academic integrity, failure to maintain minimum attendance standards, failure to maintain progress standards, and repeating a course.

Student Improvement Plan

When academic discipline is deemed necessary, the first step will be to create a student improvement plan. The goal of this plan is to identify any unsatisfactory performance along with changes that must occur to improve performance. The plan will also detail the length of time a student has to correct the performance and the process used to monitor and evaluate the outcome.

Successful completion of the terms of the plan will end academic discipline at the end of the plan period. Failure to correct the unsatisfactory performance or maintain other program standards by the end of the plan period will result in additional academic discipline steps.

Termination

Termination from the program may be based on any one of the following reasons:

- **Performance Standards**: consistently failing to meet the Architectural and Engineering Design progress or attendance standards

- **Dishonesty**: any documented episode of dishonesty including but not limited to cheating, plagiarism, or copyright infringement

- **Unauthorized Computer Use**: using classroom computers for anything other than work designated in the curriculum including checking email, visiting chat rooms, surfing the web, playing games, etc.

Termination means that a student will be dropped from the program and will be ineligible to re-enroll in the program for a minimum of ten weeks (suspension). After that period, he or she may be eligible to re-enter the program subject to availability of an opening in the class. Only one termination will be allowed, and should the student become eligible for termination again, regardless of the reason, he or she will not have an option to return to the program (expulsion).

Problem Resolution

If you are not satisfied for any reason with classroom management, grading or academic disciplinary actions taken, discuss your concerns with faculty in your program. If this does not resolve your concerns, please contact Student Services.

Placement Services

Placement services are available to you when you complete your program. These services include resume review, interview skills, and job placement assistance.

Student Policies and Procedures

You may find further information on institutional student policies and procedures here: http://www.davistech.edu/student-policies.

Instructor Response Time

Your instructor will respond to any question regarding the program, assignments, or assessments in 24 hours within the Davis Tech operational schedule.

Student Follow-up

Your success in finding employment is an indication of the quality of our instruction. To evaluate the effectiveness of our programs, we ask that you notify us of your employment status. If you are already employed, become employed, or if your employment status changes, please notify your instructor. You may also report current military service, the pursuit of additional education, or indicate reasons that may prevent you from completing your program or finding employment. If we don't receive a response from you, a Davis Tech employee will contact you to request your employment status.

Program Safety

You will learn about the practice of occupational safety while working on computers in WSKS 1400 Workplace Success.

Course Evaluations

At the end of each course, your curriculum will guide you to an online evaluation with questions about instructional content and your primary instructor. We appreciate and value your feedback. Although you will be asked to enter your student number, this is simply to verify the evaluation is completed only once per student. The results of the actual survey are anonymous. Feedback is used for program improvement and professional development.

Employer Advisory Committee

The Architectural and Engineering Design Employer Advisory Committee is made up of local industry professionals who meet at least twice a year. During the meetings, the advisory committee reviews the program, courses, equipment, materials, facilities, and the learning environment to ensure that what is being taught aligns with industry practices. They also provide information about the employment outlook in the field and specific changes that help us to better meet their employment needs.

Work-Based Activities

Students have the choice to enroll in an Architectural and Engineering Design Externship where they will work with local companies to apply skills learned through their course work in a real-world setting. The instructor will work with business partners to arrange and manage the details of the externship. The student will complete 120 hours of work. Consult with your instructor if you are interested in work-based learning or if you have any questions.

Student Conduct/Program Policy

1. **Classroom Conduct:** We expect all students who attend Davis Tech to conduct themselves in a professional manner. We prepare students to act appropriately in the class and on the job so they can enter the workforce and be successful.
2. **Language:** Abusive, vulgar, or disrespectful language will not be tolerated.
3. **Clothing:** Students need to wear clothing appropriate to the work environment. No immodest or offensive clothing may be worn.
4. **Computer Use:** Students are expected to abide by all Davis Tech's policies found on the Davis Tech website on the Students tab under Student Services, Student Policy including the Student Code of Conduct and Network Resources Acceptable Use Policy.
   a. Classroom equipment will be used for classroom purposes. All software, images, videos, and other intellectual property used in the curriculum and in the classroom are under license to Davis Tech and are not to be taken off campus.
   b. Use of social networking sites, online gaming sites, or any other non-curriculum related sites or programs are not permitted in the drafting lab. Students found abusing this policy will be marked as non-productive, which will impact their progress and eligibility for financial aid.

   Students may also have their computer privileges revoked resulting in an unexcused absence for the day, be referred to a counselor for disciplinary measures, put on probation, suspended and/or removed from the program.
5. **Phones:** No outside calls are allowed. Some exceptions may be made for emergencies or for program/job related business. Be sure to obtain instructor permission first. If cell phones become a problem, you will be asked to turn them off or put them in a locker, car, etc. District policy governs high school students' cell phone use and may result in temporary confiscation of the phone.
6. **Smoking:** Smoking is prohibited outside the Davis Tech smoking shelter. No one under 19 may smoke or have tobacco products of any kind. Chewing tobacco is not permitted on school premises.
7. **Appropriate Behavior:** horseplay, roughhousing, and practical jokes will not be permitted in the classrooms.

Class Policy Agreement

I, _____, acknowledge that I have read and understood the class policies listed in the Architectural and Engineering Design Orientation and that I agree to follow them.

Signed: _____   Date: _____

Student ID: _____

(Please sign and return to instructor)