

MECHANICAL DESIGN TECHNOLOGY

Overview

Mechanical Design Technology Associate of Applied Science Degree

Program Code: 10-606-1

For more information: [wctc.edu/mech-design](http://www.wctc.edu/mech-design) (<http://www.wctc.edu/mech-design/>)

Mechanical designers combine design skills with mechanics to develop complex visual plans that assist engineers in creating specific products. These technical renderings show intricate details, dimensions and structures, and indicate materials and procedures. In this program, study computer-aided drafting using current computer-aided design applications, and learn about manufacturing processes, material strength, basic mechanisms and three-dimensional modeling.

The minimum required course grades and program grade point average (GPA) for students under this catalog are:

Core Courses = C

General Studies Courses = C-

Program GPA = 2.0

Learning Outcomes

Program Outcomes

1. Prepare detail and assembly drawings for documentation of mechanical components and products.
2. Create CAD geometry, parts and assemblies.
3. Design mechanical components and products.
4. Analyze mechanical engineering problems.
5. Select purchased parts.

Critical Life Skills

To help our students prepare for success in a workplace and society that is **increasingly global, multi-cultural, and collaborative**, all students are given opportunities to develop and demonstrate Critical Life Skills, both in and out of the classroom. The following Critical Life Skills are learning outcomes for WCTC students.

- **Communication:** Demonstrate appropriate communication.
- **Critical Thinking/Problem Solving:** Demonstrate critical thinking skills to analyze situations and solve problems.
- **Relationships:** Demonstrate effective interpersonal skills.
- **Self-management:** Demonstrate responsible and respectful behavior.

Required Courses

Listed below are the required courses for the program. To view the recommended sequence for taking courses click on the plan of study tab(s) above. Work with your Academic Advisor to design a program plan!

View your Program Matrix (https://www.wctc.edu/_site-pdfs/course-offering-matrix/106061.pdf) to find out when each course will be offered (term and time of day).

Code	Title	Credits
Core Courses		
420-160	Manufacturing Processes - Cold	2
606-104	CAD Drafting & Design	4
606-114	GD&T	3
606-115	Technical Drafting/CAD	4
Approved Substitute: 606-115A AND 606-115B		
606-116	Machine Design Elements	3
606-117	Computer Programming Engineers	3
606-118	Basic Mechanisms	3
606-120	Statics	4
Approved Substitute: 606-121		
606-122	Strength of Materials	3
606-124	Internship-Mechanical Design	1
606-125	Machine Design Problems	3
606-162	Manufacturing Process - Hot	2
606-186	3D/Parametric Design	3
890-108	Employment Success	1
General Studies		
801-136	English Composition 1	3
Approved Substitute: 801-223		
801-196	Oral/Interpersonal Comm	3
Approved Substitute: 801-198		
804-114	College Technical Math 1B	2
Approved Substitute: 804-115		
804-116	College Technical Math 2	4
Approved Substitutes: 804-198 OR (804-195 AND 804-196)		
806-143	College Physics 1	3
Approved Substitute: 806-187		
809-166	Intro to Ethics: Theory & App	3
809-199	Psychology of Human Relations	3
Approved Substitute: 809-198		
Total Credits		60

Full-time Plan

First Year

Fall Term 1		Credits
420-160	Manufacturing Processes - Cold	2
606-115	Technical Drafting/CAD	4
804-114	College Technical Math 1B	2
Credits		8
Fall Term 2		
606-186	3D/Parametric Design	3
806-143	College Physics 1	3
Credits		6
Winter Interim		
890-108	Employment Success	1
Credits		1
Spring Term 1		
606-120	Statics	4
804-116	College Technical Math 2	4
Credits		8

Spring Term 2

606-114	GD&T	3
606-122	Strength of Materials	3
606-162	Manufacturing Process - Hot	2
Credits		8

Second Year**Summer Term**

606-124	Internship-Mechanical Design	1
801-136	English Composition 1	3
Credits		4

Fall Term 1

606-104	CAD Drafting & Design	4
606-117	Computer Programming Engineers	3
Credits		7

Fall Term 2

606-118	Basic Mechanisms	3
809-166	Intro to Ethics: Theory & App	3
Credits		6

Winter Interim

801-196	Oral/Interpersonal Comm	3
Credits		3

Spring Term 1

606-125	Machine Design Problems <small>This course will run 16 weeks.</small>	3
Credits		3

Spring Term 2

606-116	Machine Design Elements	3
809-199	Psychology of Human Relations	3
Credits		6
Total Credits		60