

# DESIGN TECHNOLOGY (DESN)

IvyTech.edu/design-technology/



## OVERVIEW

The Design Technology program prepares students for challenging professions in the design disciplines - including Architectural Design and Mechanical Design. Students have access to current hardware and software. Lab facilities are equipped with high capacity workstations, 3D printers, 3D scanners, and the latest in design and modeling software. All coursework is application and lab based. Students find jobs with companies like CG Vision, Dana, Wabash National, and Girtz Industries. Valuable experience can also be gained through internships.

## DEGREE CONCENTRATIONS

### ARCHITECTURAL DESIGN

The architectural concentration provides students with the skills to work in the area of architectural drafting, detailing and presentation, simple structural design, planning, and mark-up. The curriculum is not intended to prepare students for registration as professional architects. Emphasis is on fundamentals, architectural design, building information modeling (BIM), basic engineering principles, residential and commercial construction drawings, and construction materials and their applications.

### MECHANICAL DESIGN

The mechanical concentration prepares students to start a career in an engineering design support position. Areas of study include design and manufacturing documentation, constraint-based modeling, 3D assemblies, design intent, design processes, and manufacturing processes. Mechanical concentration graduates are skilled in a variety of 3D modeling applications. Students will obtain the skills to contribute immediately and utilize all aspects of engineering design graphics.

### COMPUTER GRAPHICS

This concentration combines both the technical and aesthetic aspects of design. Students will be prepared for a career in creative and technical areas, consisting of computer illustration, packaging design, commercial art, and creating artwork for a variety of marketing materials.

## IVY TECH BENEFITS

### CERTIFICATIONS

- Autodesk Certified User/Professional
- SolidWorks CSWA/CSWP
- Stratasys Additive MFG Certification

### STUDENT EMPLOYMENT SALARIES

Senior Designer/Project Manager	\$30k-65k
Drafter/Product Designer	\$52k
Engineering Administrator	\$49k
Mechanical Designer	\$47k
BIM Designer	\$30k

### SOFTWARE

AutoCAD | Inventor | SolidWorks | Revit | Vertex BD | Fusion 360

## IVY TECH BENEFITS

### DUAL CREDIT

Dual credit is a program that allows high school students to remain in high school and earn college credit from Ivy Tech Community College at the same time. Typically, three college credits are earned per dual credit course with a limit of fifteen credits earned per school year. There is NO COST for dual credit courses that are taught in a high school classroom.

### DUAL CREDIT COURSES

#### Ivy Tech Course

- DESN 101-Introduction to Design Technology
- DESN 113-Computer Aided Design
- DESN 104-Mechanical Graphics
- DESN 105-Architectural Design I

#### High School Course DOE #

- DOE #4800, #4836, #5640
- DOE #4836, or #5640
- DOE #4838
- DOE #5652

## PROGRAM OPTIONS

### ASSOCIATE OF SCIENCE (60 credit hours, 2 years)

Two-year Associate of Science (AS) programs typically contain 40 percent or more general education, with the balance in technical and professional courses. The coursework provides students with a foundation for transfer to a related baccalaureate program at a four-year institution.

### ASSOCIATE OF APPLIED SCIENCE (60 credit hours, 2 years)

Two-year Associate of Applied Science (AAS) degree programs prepare students for careers, career changes, and career advancement. Professional/technical courses equip students with the skills to obtain employment and to advance in the workforce.

### TECHNICAL CERTIFICATE (TC)

Design Technology (31 credit hours)

### CERTIFICATE (CT)

Architectural Design (18 credit hours)

Computer Design (18 credit hours)

Mechanical Design (18 credit hours)

## FOR MORE INFORMATION

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Program Chair

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765-269-5407

## IF YOU'VE GOT QUESTIONS, WE'VE GOT ANSWERS.

School Advanced Manufacturing, Engineering & Applied Science

765.269.5229



# Ivy Tech Community College-Lafayette

## Design Technology

2019-2020

THE FOLLOWING REGIONAL SUGGESTED SEQUENCE INCLUDES ALL COURSE REQUIREMENTS FOR THIS DEGREE. YOU MUST CONSULT WITH AN ACADEMIC ADVISOR TO DETERMINE WHICH ELECTIVES BEST MEET YOUR CAREER GOALS.

### ASSOCIATE OF APPLIED SCIENCE

Course #	Title	Credit Hours
<b>Semester 1</b>		
IVYT 111	Student Success	1
MATH 122	Applied Technical Mathematics	3
DESN 101	Intro. to Design Technology	3
DESN 113	2D Computer-Aided Design (CAD)	3
DESN 220	3D Computer-Aided Design (CAD)	3
ENGL 111	English Composition	3
	or	
COMM 104	Workplace Communications	3
<b>Semester 2</b>		
DESN 104	Mechanical Graphics	3
	or	
DESN 105	Architectural Design I	3
DESN 115	BIM Architecture	3
XXXX XXX	Design Technology Statewide Elective	3
XXXX XXX	Design Technology Statewide Elective	3
XXXX XXX	Design Technology Statewide Elective	3
<b>Semester 3</b>		
DESN 218	Intro. Statistics and Strength of Materials	3
COMM 104	Workplace Communications	3
	or	
ENGL 111	English Composition	3
SCIN 101	Science of Sustainable Energy	4
XXXX XXX	Design Technology Statewide Elective	3
XXXX XXX	Design Technology Statewide Elective	3
<b>Semester 4</b>		
DESN 217	Design Process & Applications	3
DESN 279	Design Technology Capstone	1
XXXX XXX	Design Technology Statewide Elective	3
XXXX XXX	Design Technology Statewide Elective	3
XXXX XXX	Humanities/Social & Behavioral Sciences Elect.	3
<b>Total Credit Hours: 60</b>		

### TECHNICAL CERTIFICATE

Course #	Title	Credit Hours
<b>Semester 1</b>		
IVYT 113	Student Success in Technology	1
MATH 122	Applied Technical Mathematics	3
DESN 101	Introduction to Design Technology	3
DESN 113	2D Computer-Aided Design (CAD)	3
DESN 220	3D Computer-Aided Design (CAD)	3
ENGL 111	English Composition	3
	or	
COMM 104	Workplace Communications	3
<b>Semester 2</b>		
DESN 104	Mechanical Graphics	3
DESN 105	Architectural Design I	3
XXXX XXX	Design Technology Statewide Elective	3
XXXX XXX	Design Technology Statewide Elective	3
XXXX XXX	Design Technology Statewide Elective	3
<b>Total Credit Hours: 21</b>		

### ASSOCIATE OF SCIENCE

Course #	Title	Credit Hours
<b>Semester 1</b>		
IVYT 111	Student Success	1
ENGL 111	English Composition	3
MATH 137	Trigonometry with Analytic Geometry	3
DESN 101	Intro. to Design Technology	3
DESN 113	2D Computer-Aided Design (CAD)	3
DESN 220	3D Computer-Aided Design (CAD)	3
<b>Semester 2</b>		
COMM 101	Fundamentals of Public Speaking	3
MATH 136	College Algebra	3
PHYS 101	Physics I	4
XXXX XXX	Transfer Cluster Elective	3
XXXX XXX	Transfer Cluster Elective	3
<b>Semester 3</b>		
XXXX XXX	Scientific Ways of Knowing Elective	3 - 4
XXXX XXX	Transfer Cluster Elective	3
XXXX XXX	Transfer Cluster Elective	3
XXXX XXX	TGEC Elective	3
XXXX XXX	Social & Behavioral Ways of Knowing Elective	3
<b>Semester 4</b>		
XXXX XXX	TGEC Elective	3
XXXX XXX	Transfer Cluster Elective	3
XXXX XXX	Transfer Cluster Elective	3
DESN 279	Design Technology Capstone	1
XXXX XXX	Humanistic & Artistic Ways of Knowing Elective	3
<b>Total Credit Hours: 60</b>		

### CERTIFICATE

Course #	Title	Credit Hours
<b>Architectural Design</b>		
DESN 101	Introduction to Design Technology	3
DESN 113	2D Computer-Aided Design (CAD)	3
DESN 105	Architectural Design I	3
DESN 115	BIM Architecture	3
DESN 204	Architectural Design II	3
DESN 109	Construction Materials & Specifications	3
<b>Total: 18</b>		
<b>Computer Graphics</b>		
DESN 101	Introduction to Design Technology	3
DESN 113	2D Computer-Aided Design (CAD)	3
DESN 130	Fund of Computer Graphics	3
DESN 132	Raster Graphics	3
DESN 133	Vector Graphics	3
DESN 134	Design Visualization	3
<b>Total: 18</b>		
<b>Mechanical Design</b>		
DESN 101	Introduction to Design Technology	3
DESN 113	2D Computer-Aided Design (CAD)	3
DESN 104	Mechanical Graphics	3
DESN 220	3D CAD	3
DESN 195	Manufacturing Principles & Design	3
DESN 223	Parametric Solid Modeling	3
<b>Total: 18</b>		

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