COMPUTER AIDED DESIGN – MECHANICAL

(Occupational Program)

Curriculum Guide for Academic Year 2021-2022

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Students planning to **transfer** to a four-year college or university should refer to the ASSIST web site at www.assist.org and **consult a counselor** before beginning a program of study. Please call 562-938-4561 for the LAC, or (562) 938-3920 for PCC to schedule a meeting with a counselor. Students may also wish to visit the Transfer Center on either campus.

Program of study leading to:

Associate in Science (A.S.) Degree

	Required Courses:		**UNITS**	**In Progress**	**Completed Grade**
	ETEC 10	Introduction to Electrical Technology	1		
	CAD 50	Mechanical Drafting, Introduction	2		
†	CAD 51	Mechanical Drafting, Intermediate	2		
	CAD 52	CAD/CAM	2		
	CAD 60	Geometric Distancing and Tolerancing	3		
	CAD 202	AutoCAD Fundamentals	2		
	CAD 203	AutoCAD II, Advanced Concepts	2		
	CAD 220	Intro to CATIA	2		
†	CAD 221	Intermediate CATIA	2		
		TOTAL UNITS	**18**		

For graduation with an **Associate in Science (A.S.) Degree with a major in Computer Aided Design - Mechanical:**

1. **Minimum Unit Requirements: §**Any course that appears on a curriculum guide and the General Education Pattern (Plan A) may fulfill both major and general education requirements (Approved by College Curriculum Committee Spring 2012). For this degree, complete a minimum of 60 units in courses numbered 1-599. Please note that additional elective units may be required to meet this minimum based upon courses selected to fulfill General Education for the Associate Degree.

   Drafting: Mechanical Design Major 18 Units
   General Education/ A.S. **§** 19 Units

2. **Scholarship:** Maintain an **overall grade point average (GPA) of 2.0** ("C" average) based on all accredited college work applied to the degree, no matter where completed. For this **field of concentration, complete each course above** with a **grade of "C" or better**, or "P" if course is graded on a P/NP basis.
3. **Residence for the Degree:** Complete at least 12 semester units of the required 60 semester units in residence at Long Beach City College in order for the college to grant an Associate of Arts and/or an Associate of Science Degree.
4. **Residence for the Field of Concentration**: Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 9 units** of the required 18 units must be **completed at Long Beach City College**. Credit earned by exam, where applicable, may be included.
5. **General Education and Proficiency Requirements:** Complete the required A.A./A.S. General Education and Proficiency requirements*, otherwise known as "Plan A". For Plan A requirements, refer to the general catalog or view it online at http://osca.lbcc.edu .

6. **General Education and Proficiency Requirements:** Complete the required A.A./A.S. General Education and Proficiency requirements*, otherwise known as "Plan A". For Plan A requirements, refer to the general catalog or view it online at http://osca.lbcc.edu .
7. Complete and submit the degree application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at http://admissions.lbcc.edu/ . Refer to the Schedule of Classes (http://schedule.lbcc.edu) and click the "Important Dates" link to view the actual deadline for each semester.

*The requirements for general education/proficiency and the field of concentration (major) need to be from the same catalog year. This catalog year may be any year between the year of initial enrollment to the present, provided continuous enrollment is maintained throughout. See the catalog for definition of "continuous enrollment".

Program of study leading to:
Certificate of Achievement

REQUIRED COURSES – Complete the 29 units of required courses as listed in the Associate Degree requirements box on the first page.

		In Progress	Completed
TOTAL UNITS	**18**		

For graduation with a **Computer Aided Design – Mechanical Certificate of Achievement:**

1. Complete each of the **REQUIRED COURSES** listed above with a **minimum grade of** "**C**".
2. Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 9 units** of the required 18 must be **completed at Long Beach City College**. Credit earned by exam, where applicable, may be included.
3. Complete and submit the certificate application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at http://admissions.lbcc.edu/ . Refer to the Schedule of Classes (http://schedule.lbcc.edu) and click the "Important Dates" link to view the actual deadline for each semester.

Program of study leading to:
Certificates of Accomplishment

Certificate: AutoCAD I, Fundamentals (108 Hours) 4015

REQUIRED COURSES		UNITS	In Progress	Completed Grade
CAD 202	AutoCAD Fundamentals	2		
	TOTAL UNITS	**2**		

Certificate: AutoCAD II, Advanced Concepts (108 Hours) 4016

REQUIRED COURSES		UNITS	In Progress	Completed Grade
CAD 203	AutoCAD II, Advanced Concepts	2		
	TOTAL UNITS	**4**		

Certificate: AutoCAD III, Visualization, Rendering, Animation (108 Hours) 4017

REQUIRED COURSES		UNITS	In Progress	Completed Grade
CAD 204	3D Visualization/Animation	2		

		TOTAL UNITS	**2**		

Certificate: CAD Professional (324 Hours) 4018

REQUIRED COURSES		**UNITS**	**In Progress**	**Completed Grade**
CAD 50	Mechanical Drafting, Introduction	2		
CAD 51	Mechanical Drafting, Intermediate	2		
CAD 202	AutoCAD Fundamentals	2		
CAD 203	AutoCAD II, Advanced Concepts	2		
	TOTAL UNITS	**8**		

For graduation with a **Certificate of Accomplishment:**

1. Complete the above required units with a minimum grade point average of 3.0 ("B" average).
2. Fifty percent (50%) or more of the required units must be completed in residence at LBCC.

Complete and submit the certificate application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at http://admissions.lbcc.edu/

Career Opportunities

Students learn entry-level job skills in mechanical drafting and design.

The Associate Degree will prepare students for a mechanical-design-related career, and appropriate course selection will facilitate transfer to a professional degree program.

The Core Skills Certificate of Achievement will prepare students for an entry-level position as a mechanical drafter trainee in a variety of design professional settings and will serve as a foundation for specialization.

The Advanced Skills Certificate of Achievement will prepare student for an advanced position as a mechanical drafter or intermediate level drafting position in a variety of design professional settings and will serve as a foundation for specialization.

Program Mission and Outcomes

To create an educational environment where students can achieve their individual goals by providing the knowledge and skills to enter the design field of their choice by using the latest technologies and industry trends.

Outcomes:

- Establish mastery of basic knowledge and skills and apply advanced technologies relevant to entering the mechanical drafting and design field at an entry or advanced level.
- Develop career awareness, planning, employability skills, work habits, and foundation knowledge necessary for success in the workplace
- Possess the necessary technical knowledge and communication skills to identify, articulate and solve problems pertaining to the industrial manufacturing environment and perform tasks required within the mechanical design drafting professions.

Legend

† This course has a prerequisite. Prerequisite courses must be complete with at least a "C" or "P" grade. Refer to the General Catalog (http://www.lbcc.edu/cat/index.html), the Schedule of Classes (http://schedule.lbcc.edu/), or the online Credit Course Outline (http://wdb-asir.lbcc.edu/coursecurriculum/coursedetails/) for specific prerequisite information.