

DRAFTING – MECHANICAL DESIGN

Occupational Program

LONG BEACH CITY COLLEGE

Curriculum Guide for Academic Year 2010-2011

Certificate of Achievement and/or Associate in Science or Certificate of Accomplishment

ALL INFORMATION CONTAINED HEREIN IS SUBJECT TO CHANGE WITHOUT NOTICE.

For possible updates to this guide please refer to the following website: <http://osca.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.

DEPARTMENTAL ADMISSION REQUIREMENTS

None. For more departmental information call (562) 938-4718 or (562) 938-4467

ASSOCIATE DEGREE REQUIREMENTS

Complete a minimum of **TWENTY (20)** units from the courses listed below with an overall grade point average of 2.0 and a "C" average in the drafting courses.

			UNITS	In Progress	Completed Grade
†	DRAFT 51A	Industrial Drafting I (F, SP)	3		
†	DRAFT 51B	Industrial Drafting II (F, SP)	3		
†	DRAFT 52A	Advanced Industrial Drafting (F, SP)	3		
†	DRAFT 52B	Descriptive Geometry (F, SP)	3		
	DRAFT 60	Geometric Dimensioning and Tolerancing (F, SP)	3		
	DRAFT 201	Introduction to Drafting (F, SP)	4		
	DRAFT 202AD	AutoCAD I, Fundamentals (F, SP)	3		
	DRAFT 203AD	AutoCAD II, Advanced Concepts (F, SP)	3		
TOTAL UNITS			20		

CORE SKILLS CERTIFICATE OF ACHIEVEMENT REQUIREMENTS

Complete a minimum of **EIGHTEEN (18)** units from the courses listed below with an overall grade point average of 2.0 ("C" average) and a "C" average in the drafting courses.

			UNITS	In Progress	Completed Grade
†	DRAFT 51A	Industrial Drafting I (F, SP)	3		
†	DRAFT 51B	Industrial Drafting II (F, SP)	3		
†	DRAFT 52A	Advanced Industrial Drafting (F, SP)	3		
†	DRAFT 52B	Descriptive Geometry (F, SP)	3		
	DRAFT 60	Geometric Dimensioning and Tolerancing (F, SP)	3		
	DRAFT 201	Introduction to Drafting (F, SP)	4		
	DRAFT 202AD	AutoCAD I, Fundamentals (F, SP)	3		
	DRAFT 203AD	AutoCAD II, Advanced Concepts (F, SP)	3		
TOTAL UNITS			18		

ADVANCED SKILLS CERTIFICATE OF ACHIEVEMENT REQUIREMENTS

Complete a minimum of **THIRTY TWO – THIRTY FOUR (32-34)** units from the courses listed below with an overall grade point average of 2.0 ("C" average) and a "C" average in the drafting courses.

			UNITS	In Progress	Completed Grade
†	DRAFT 51A	Industrial Drafting I (F, SP)	3		
†	DRAFT 51B	Industrial Drafting II (F, SP)	3		
†	DRAFT 52A	Advanced Industrial Drafting (F, SP)	3		
†	DRAFT 52B	Descriptive Geometry (F, SP)	3		
	DRAFT 60	Geometric Dimensioning and Tolerancing (F, SP)	3		
	DRAFT 201	Introduction to Drafting (F, SP)	4		
	DRAFT 202AD	AutoCAD I, Fundamentals (F, SP)	3		
	DRAFT 203AD	AutoCAD II, Advanced Concepts (F, SP)	3		
	DRAFT 204	3D Visualization/Animations (F, SP)	4		
Subtotal Units			29		
Select <i>THREE (3) - FIVE (5)</i> units from the following:					
†*	MATH 130	Intermediate Algebra	5		
OR					
†*	A more advanced level of Mathematics		3-5		
Subtotal Units			3-5		
TOTAL UNITS			32-34		
RECOMMENDED course but not required:					
	DRAFT 273AD	Work Experience – Mechanical Drafting	4		
	TEC 60AD	Computer Aided Design & Drafting (CADD)	3:3:3:3		

LEGEND

† This course has a prerequisite; prerequisite courses must be completed with at least a "C" or "P" grade (see catalog or schedule of classes).

* This course is an exception to the "double-counting" rule; it may be double-counted.

(SP = Spring) (S = Summer) (F = Fall) (INF = Infrequently) = Represents general frequency of course offering

GRADUATION REQUIREMENTS

For **CERTIFICATE OF ACHIEVEMENT:**

This certificate is a one to two year program in occupational/technical areas at Long Beach City College which provides training in job skills and employment opportunities. Complete the required units with a minimum cumulative grade point average of 2.0 ("C" average), with the drafting courses (identified with a #) with a "C" average. Fifty percent (50%) or more of the unit requirements for this field of concentration must be completed in residence (credit earned by exam, where applicable, may be included).

For **ASSOCIATE IN SCIENCE DEGREE:**

NOTE: Effective Fall 2009, Title 5, section 55063 (a) (2) requires that students must complete each course counted toward the major or area of emphasis with a grade of "C" or better or "P" if the course is taken on a "Pass/No Pass" basis.

The Associate Degree is a two-year college degree awarded by Long Beach City College which includes general education courses and a major. In addition to these requirements, complete the A.S. degree requirements specified in the catalog. The requirements for general education/proficiency and the field of concentration 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"). Fifty per cent (50%) or more of the unit requirements for this field of concentration must be completed in residence (credit earned by exam, where applicable, may be included).

NOTE: To receive a certificate or degree you must submit completed application forms in the Admissions and Records Office during your final semester of course work.

In general, "double-counting" is not allowed. That is, one course may not be used to fulfill both a field of concentration requirement and to fulfill a general education requirement.

SUGGESTED SEQUENCE OF COURSES
This is not an educational plan, as course offerings, student schedules, and circumstances vary. Students must meet all the prerequisites in order to be eligible for the sequence of courses.

A suggested full-time sample sequence of courses for the required **60** units to reach an Associate Degree includes:

<p><u>First Semester</u></p> <p>DRAFT 51A 3 units</p> <p>DRAFT 201 4</p> <p>Math Course 3-5</p> <p>English Course 3</p> <hr/> <p>Semester Total 13-15</p>	<p><u>Second Semester</u></p> <p>DRAFT 51B 3 units</p> <p>G.E. Course 1-3</p> <p>DRAFT 202AD 3</p> <p>G.E. Course 1-3</p> <hr/> <p>Semester Total 8-12</p>
<p><u>Third Semester</u></p> <p>DRAFT 52A 3 units</p> <p>G.E. Course 1-3</p> <p>G.E. Course 3</p> <p>G.E. Course 3</p> <p>G.E. Course 3</p> <p>DRAFT 60 3</p> <hr/> <p>Semester Total 13-15</p>	<p><u>Fourth Semester</u></p> <p>DRAFT 203AD 3 units</p> <p>G.E. Course 3</p> <p>G.E. Course 3</p> <p>DRAFT 52B 3</p> <p>DRAFT 204 4</p> <hr/> <p>Semester Total 16</p>

CERTIFICATES OF ACCOMPLISHMENT

FOR OFFICE USE ONLY: 4015

**Name of Certificate: AutoCAD I, Fundamentals
(108 Hours)**

REQUIRED COURSES	UNITS	In Progress	Completed Grade
DRAFT 202AD AutoCAD 1, Fundamentals (F, SP)	3		
TOTAL UNITS	3		

FOR OFFICE USE ONLY: 4016

**Name of Certificate: AutoCAD II, Advanced
Concepts (108 Hours)**

REQUIRED COURSES	UNITS	In Progress	Completed Grade
DRAFT 203AD AutoCAD II, Advanced Concepts (F, SP)	3		
TOTAL UNITS	3		

FOR OFFICE USE ONLY: 4017

**Name of Certificate: AutoCAD III, Visualization,
Rendering, Animation (108 Hours)**

REQUIRED COURSES	UNITS	In Progress	Completed Grade
DRAFT 204 3D Visualization/Animation (F, SP)	4		
TOTAL UNITS	4		

FOR OFFICE USE ONLY: 4017

**Name of Certificate: CAD Professional
(324 Hours)**

REQUIRED COURSES			UNITS	In Progress	Completed Grade
	DRAFT 202AD	AutoCAD 1, Fundamentals (F, SP)	3		
	DRAFT 203AD	AutoCAD II, Advanced Concepts (F, SP)	3		
	DRAFT 204	3D Visualization/Animation (F, SP)	4		
TOTAL UNITS			10		

FOR OFFICE USE ONLY: 4027

Name of Certificate: 3D Studio MAX – Modeling Technician (108 Hours)

REQUIRED COURSES			UNITS	In Progress	Completed Grade
	DRAFT 251AD	3D Modeling for Technical Animation	3		
TOTAL UNITS			3		

FOR OFFICE USE ONLY: 4025

Name of Certificate: 3D Studio MAX – Texture and Lighting Technician (108 Hours)

REQUIRED COURSES			UNITS	In Progress	Completed Grade
	DRAFT 252AD	Textures/Lighting – Technical Animation	3		
TOTAL UNITS			3		

FOR OFFICE USE ONLY: 4026

Name of Certificate: 3D Studio MAX – Animation Technician (108 Hours)

REQUIRED COURSES			UNITS	In Progress	Completed Grade
	DRAFT 253AD	3D Technical Animation & Production	3		
TOTAL UNITS			3		

FOR OFFICE USE ONLY: 4028

Name of Certificate: 3D Studio MAX – Technical Design Animator (324 Hours)

REQUIRED COURSES			UNITS	In Progress	Completed Grade
	DRAFT 251AD	3D Modeling for Technical Animation	3		
	DRAFT 252AD	Textures/Lighting – Technical Animation	3		
	DRAFT 253AD	3D Technical Animation & Production	3		
TOTAL UNITS			9		

LEGEND

† This course has a prerequisite; prerequisite courses must be completed with at least a "C" or "P" grade (see catalog or schedule of classes).
(SP = Spring) (S = Summer) (F = Fall) (INF = Infrequently) = Represents general frequency of course offering

CERTIFICATE OF ACCOMPLISHMENT REQUIREMENTS

For CERTIFICATE OF ACCOMPLISHMENT:

This certificate certifies a competency in a given area and requires less than 18 units. Fifty percent (50%) or more of the unit requirements for this field of concentration must be completed in residence. Complete the required units at Long Beach City College with an overall minimum grade point average of "B". Submit a completed application for the certificate in the Admissions and Records Office after completion of required units.

Students interested in transferring to a university to continue their study in this field of concentration or other majors are strongly advised to consult an LBCC academic counselor and refer to the ASSIST website (www.assist.org) for major preparation information. Counselors can clarify the different major and admissions requirements at a university. Students may visit the Student Success/Transfer Services Center to access further educational resources. If you need to set up an appointment to see a counselor or schedule the SOAR Test, call LAC (562)938-4561 or PCC (562)938-3920.