

SHEET METAL

Curriculum Guide for Academic Year 2012-2013

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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

<u>REQUIRED COURSES</u>		<u>UNITS</u>	<u>In Progress</u>	<u>Completed Grade</u>
SHMET 220A OR	Basic Sheet Metal Layout and Fabrication OR	4 OR		
SHMET 320M1 &	Basic Sheet Metal Layout and Fabrication &	2 &		
SHMET 320M2	Basic Sheet Metal Layout and Fabrication	2		
▲ SHMET 220B	Advanced Sheet Metal Layout/Fabrication	4		
▲ SHMET 220C	Power Metalworking Machine Operations	4		
SHMET 221	Sheet Metal Blueprint Reading	2		
SHMET 420AD OR	Sheet Metal Fabrication	2 OR		
SHMET 421AD OR	Sheet Metal Layout	1 OR		
SHMET 423AD	Sheet Metal Layout	3		
WELD 480AD	Welding (Inert Gas)	2		
ELECT 253	OSHA Standards for Constructing Safety	2		
Subtotal Units		19-21		

For graduation with an **Associate in Science (A.S.) Degree with a major in Sheet Metal:**

- 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.

Sheet Metal Major:	19-21	units
General Education/A.A.	19	units
Minimum Total Units:	60	units

- 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.
- Residence for the Degree:** Complete at least 30 units of the required 60 in residence at LBCC, or complete in residence at LBCC at least 20 units within the last 30 units of work applied to the degree.
- 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 11 units** of the required 19-21 must be **completed at Long Beach City College**. Credit earned by exam, where applicable, may be included.
- 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>.
- 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:
Certificates of Achievement**

Certificate: Core Skills 3982

REQUIRED COURSES		UNITS	In Progress	Completed Grade
SHMET 220A OR	Basic Sheet Metal Layout and Fabrication OR	4 OR		
SHMET 320M1 &	Basic Sheet Metal Layout and Fabrication &	2 &		
SHMET 320M2	Basic Sheet Metal Layout and Fabrication	2		
▲ SHMET 220B	Advanced Sheet Metal Layout and Fabrication	4		
▲ SHMET 220C	Power Metalworking Machine Operations	4		
SHMET 221	Sheet Metal Blueprint Reading	2		
SHMET 420AD OR	Sheet Metal Fabrication OR	2 OR		
SHMET 421AD OR	Sheet Metal Layout OR	1 OR		
SHMET 423AD	Sheet Metal Layout	3		
WELD 480AD	Welding (Inert Gas)	2		
ELECT 253	OSHA Standards for Construction Safety	2		
TOTAL UNITS		19-21		

See the section below for RECOMMENDED courses.

Certificate: Advanced Skills 3983

REQUIRED COURSES		UNITS	In Progress	Completed Grade
SHMET 220A OR	Basic Sheet Metal Layout and Fabrication OR	4 OR		
SHMET 320M1	Basic Sheet Metal Layout and Fabrication &	2 &		
SHMET 320M2	Basic Sheet Metal Layout and Fabrication	2		
▲ SHMET 220B	Advanced Sheet Metal Layout and Fabrication	4		
▲ SHMET 220C	Power Metalworking Machine Operations	4		
▲ SHMET 220D	Sheet Metal CNC Fabrication Systems	4		
SHMET 221	Sheet Metal Blueprint Reading	2		
SHMET 223	Sheet Metal Duct Systems and Fabrication	2		
SHMET 420AD OR	Sheet Metal Fabrication OR	2 OR		
SHMET 421AD OR	Sheet Metal Layout OR	1 OR		
SHMET 423AD	Sheet Metal Layout	3		
WELD 480AD	Welding (Inert Gas)	2		
ELECT 253	OSHA Standards for Construction Safety	2		
Subtotal Units		26-28		

IN ADDITION, COMPLETE SIX – SEVEN (6 – 7) UNITS from the following:

		UNITS		
DRAFT 201	Introduction to Drafting	4		
COMM 20	Elements of Interpersonal Communication	3		
ELEC 202	Electrical Mathematics	3		
Subtotal Units		6 – 7		
TOTAL UNITS		32 – 35		

See the section below for RECOMMENDED courses.

For graduation with a **Sheet Metal (Core Skills) Certificate of Achievement:**

1. Complete each of the **REQUIRED COURSES** listed above with a **minimum grade of "C"**, or better, or "P" if course is graded on a P/NP basis.
2. Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means:
 For the **Core Skills Certificate**, complete at **least 9.5-10.5 units** of the required 19-21 at **Long Beach City College**.
 For the **Advanced Skills Certificate**, complete at **least 13 -14** of the required 26-28 at **Long Beach City College**.
 Credit earned by exam, where applicable, may be included.

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.

For both the **Core Skills Certificate**, the following courses are recommended, **BUT ARE NOT REQUIRED:**

RECOMMENDED but not required for the CORE SKILLS Certificate:

DRAFT 201	Introduction to Drafting	4		
ELECT 202	Electrical Mathematics	3		
FORK 801	Forklift Safety and Operation	1		
▲ SHMET 220D	Sheet Metal CNC Fabrication Systems	4		
SHMET 223	Sheet Metal Duct Systems and Fabrication	3		
SPEECH 20	Elements of Interpersonal Communication	3		
SHMET 420AD	Sheet Metal Fabrication	2		
SHMET 421AD	Sheet Metal Layout	1		
SHMET 423AD	Sheet Metal Layout	3		
▲ SHMET 271AD	Work Experience Sheet Metal	2		
▲ SHMET 272AD	Work Experience Sheet Metal	3		
▲ SHMET 273AD	Work Experience Sheet Metal	4		
WELD 400 Band	Welding	2		

For both the **Advanced Skills Certificate**, the following courses are recommended, **BUT ARE NOT REQUIRED:**

RECOMMENDED but not required for the ADVANCED SKILLS Certificate:

▲ SHMET 271AD	Work Experience Sheet Metal	2		
▲ SHMET 272AD	Work Experience Sheet Metal	3		
▲ SHMET 273AD	Work Experience Sheet Metal	4		
SHMET 420AD	Sheet Metal Fabrication	2		
SHMET 421AD	Sheet Metal Layout	1		
SHMET 423AD	Sheet Metal Layout	3		
WELD 400 Band	Welding	2		

Career Opportunities

This **Associate Degree** will prepare students for entry positions in sheet metal layout, fabrication and installation.

The **Core Skills Certificate of Achievement** will prepare students for an entry-level position as a trainee in sheet metal layout, fabrication and installation.

The **Advanced Skills Certificate of Achievement** will prepare students for an entry-level position as a trainee in sheet metal layout, fabrication and installation. The Advanced Skills Certificate will place added emphasis on sheet metal CNC fabrication, drafting and duct system layout and in preparation for acceptance into the Sheet Metal Worker Apprenticeship Program.

Program Mission and Outcomes

The Sheet Metal program's mission is to provide technical training to meet the demands of the industry and the needs of the individual to demonstrate entry level skills necessary for employment.

Outcomes:

- Perform a common sheet metal layout and fabrication project.
- Perform common metal fabrication using power machinery to produce a fabrication project.
- Demonstrate the ability to read and interpret construction blueprints.

Legend

▲ This course has a co-requisite. 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 co-requisite information.