



Central
North
South
SVI

INT112 - Manufacturing Tools and Trades

Document Type: District Master Course Outline
Proposal Type: New Course
Requester(s): Danette Randolph Holly Moore Karen L Whitney
College: South
Origination Approved: 11/07/2012 - 2:43 PM

BASIC INFORMATION

Requester(s): Danette Randolph
Holly Moore
Karen L Whitney
College: South Seattle Community College
Division/Dept: Apprenticeship-GT Campus
Dean: Holly Moore

COURSE INFORMATION

Proposed Course Number:

Prefix: **INT** Number: **112**

- Request a new Prefix
- This will be a common course

Full Title: Manufacturing Tools and Trades

Abbreviated Title: Tools and Trades

Catalog Course Description:

The use of hand tools, shop and manufacturing tools, shop safety and personal protective equipment to provide the students with the knowledge and skills necessary to work in a diversified manufacturing lab. This also provides tours to employer sites with the potential of job shadows with current employees. The practical applications portion of the course is a lab used for project completion. Projects include the design and manufacturing of projects. Students complete individual projects.

Course Length: 11 Weeks Request an Exception

Course Prerequisite(s):
Instruction Permission

Topical Outline:

- I. Whistle Project
 - A. Introduction to the Whistle Project
 - B. Manufacturing the Whistle Project

- II. Soldering Project
 - A. Introduction to the Soldering Project
 - B. Manufacturing the Soldering Project

- III. Paper Clip Box/Riveting Project
 - A. Introduction to the Paper Clip Box/Riveting Project

B. Manufacturing the Paper Clip Box/Riveting Project

IV. Multimeter Project

A. Introduction to the Multimeter Project

B. Manufacturing the Multimeter Project

V. Electronic Assembly Project

A. Introduction to the Electronic Assembly Project

B. Manufacturing the Electronic Assembly Project

COURSE CODING

Funding Source: 1.....State

Institutional Intent: 21.....Vocational Preparatory

This Course is a requirement for the following program(s):

(No Programs Selected)

My Course Proposal is a requirement for a program not on this list

Program Title/Description/Notes:

Part of Industrial Manufacturing Advanced STT Certificate

Will this course transfer to a 4-year university?

No

Is this course designed for Limited English Proficiency?

No

Is this course designed for Academic Disadvantaged?

No

Does this course have a Workplace Training component?

Yes

CIP Code: 47.0303

Request Specific CIP Code

EPC Code: 768

Request Specific EPC Code

Credits:

Will this course be offered as Variable Credit? No

List Course Contact Hours

Lecture (11 Contact Hours : 1 Credit) 33

Lab (22 Contact Hours : 1 Credit) 44

Clinical Work (33 Contact Hours : 1 Credit) 0

Other (55 Contact Hours : 1 Credit) 0

Total Contact Hours 77

Total Credits 5

COLLEGE SUPPLEMENTAL

Proposed Quarter of Implementation: Winter 2013

Request Provisional Exception

Class Capacity: 20

Modes of Delivery: (Check all that apply)

Fully On Campus

Fully Online

Hybrid

Other Explanation:

Class Schedule Description:

This course is designed to use of hand tools, shop and manufacturing tools, shop safety and personal protective equipment. Welding and electrical skills are also covered. Individual Projects include the design and manufacturing of projects. Students complete individual projects to apply learned theory and to use critical thinking and problem solving skill.

Student Learning Outcomes:

Communication

Read and listen actively to learn and communicate

Listen and communicate shop safety and personal protective equipment practices according to OSHA/MSDS

Critical Thinking and Problem-Solving

Think critically in evaluating information, solving problems, and making decisions

Evaluate and problem solves using appropriate tools and equipment in a manufacturing environment

Technology

Select and use appropriate technological tools for personal, academic, and career tasks

Understand how to utilize manufacturing equipment appropriately

Personal Responsibility

Value one's own skills, abilities, ideas and art

Evaluate personal competency and know when to ask for help.

Program Outcomes:

SOUTH SEATTLE COMMUNITY COLLEGE

Industrial Manufacturing Advanced

PROGRAM OUTCOMES

At the end of the program the graduates will:

- Describe and utilize manufacturing techniques, tools and safety practices.

(SLO 1, 2, 3, 4, 5, 7)

- Apply the concepts of diversified manufacturing, OSHA standards, Composites, Welding and LEAN concepts to promote quality and safe production and designs. (SLO 1,2,3,4,7)
- Employ the appropriate actions regarding workplace culture, safety and industry standards; (SLO 3, 6)
- Evaluate one's own capabilities and limitations, identify individual needs of continued growth is able to seek consultation from superiors. (SLO 3, 6)
- Communicate effectively and appropriately in the workplace. (SLO 1, 3, 4, 6)
- Practice within the standards established by the profession, and identify the parameters of accountability. (SLO 2, 4, 5, 6, 7)

Course Outcomes/Objectives:

Upon completion of the course, students will be able to:

1. Demonstrate shop safety practices and use of PPE
2. Identify major tools of the trade: saws, drills, lathes, mills, and grinders
3. Measure with precision measuring tools
4. Demonstrate proper handling, use, and storage of tools
5. Describe the Occupational Safety and Health Act, 29CFR1926
6. Identify the common causes of accidents and fatalities in hazardous areas
7. Recognize unsafe conditions and unsafe acts
8. Identify abatement techniques for hazards found within manufacturing
9. Follow job plans and drawings to manufacture and complete classroom projects
10. Collaborate in teams to effectively produce a standardized product
11. Demonstrate all aspects of the basic process of manufacturing including production, inspection, and finishing

Upon completion of the course, students will be able to:

1. Oxygen fuel track burner
2. Hand held oxygen fuel cutting
3. Plasma use and cautions
4. Handheld plasma
5. Handheld fleshing tip on cutting torch
6. Shield metal arc weld - stick
7. Flux cored arc weld - wire
8. Gas metal arc weld – hard wire
9. Slag shield (coating covering weld)
10. Welding Hazards
 - a. Fumes/Smoke
 - b. Heat/Sparks
 - c. Slag/glass particles
 - d. Grounding
 - e. Surroundings
 - f. Ventilation

- g. Clothing – leather, canvas, cotton
- 11. Tungsten Inert Gas (TIG) welding process
- 12. Arc gouging

Explain the student demand for the course and potential enrollment:

This course is part of required curriculum for a Professional Technical Program Short Term Training Certificate

Explain why this course is being created:

This course is part of required curriculum for a Professional Technical Short Term Training Certificate

What challenges, if any, do you foresee in offering this course:

None

This is to certify that the above criteria have all been met and all statements are accurate to the best of my knowledge.

Faculty involved in originating this program:

Danette Randolph Print Name	<i>Danette Randolph</i> Signature	11/2/2012 Date
Holly Moore Print Name	<i>Holly Moore</i> Signature	11/2/2012 Date
Karen L Whitney Print Name	<i>Karen L Whitney</i> Signature	11/2/2012 Date

Dean:

Holly Moore Print Name	<i>Holly Moore</i> Signature	11/7/2012 Date
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Results of SSCC Curriculum Coordinating Council Findings

Participating Faculty Response and Remarks

- Recommended for approval
- Not recommended for approval
- This course did not go through Committee Review

Chairman, Curriculum Coordinating Council:

_____	_____	_____
Print Name	Signature	Date

Vice President for Instruction:

Donna Miller-Parker Print Name	<i>Donna Miller-Parker</i> Signature	11/7/2012 Date
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