ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: **Workforce Development**

COURSE: **CAD 1203 Electronic Drafting**

Date: Spring 2015

Credit Hours: 2

Prerequisite(s):   CAD 1200

Delivery Method: ☒ **Lecture**   **1 Contact Hours** (1 contact = 1 credit hour)

☐ **Seminar**   **0 Contact Hours** (1 contact = 1 credit hour)

☒ **Lab**   **2 Contact Hours** (2 contact = 1 credit hour)

☐ **Clinical**   **0 Contact Hours** (3 contact = 1 credit hour)

☐ **Online**

☐ **Blended**

Offered: ☐ **Fall**   ☒ **Spring**   ☐ **Summer**

IAI Equivalent –*Only for Transfer Courses*-go to *http://www.itransfer.org*:

CATALOG DESCRIPTION:
A course in techniques and general drafting with major emphasis on pictorial drawing, device symbols, production drawings, flow and schematic diagrams, printed circuits, miniaturization, industrial controls, and graphic representation.

GENERAL EDUCATION GOALS ADDRESSED
[See the last page of this form for more information.]
Upon completion of the course, the student will be able:
[Choose those goals that apply to this course.]

☒ To apply analytical and problem solving skills to personal, social and
    professional issues and situations.

☒ To communicate orally and in writing, socially and interpersonally.

☐ To develop an awareness of the contributions made to civilization by
    the diverse cultures of the world.

☒ To understand and use contemporary technology effectively and to
    understand its impact on the individual and society.

☒ To work and study effectively both individually and in collaboration with
    others.

☒ To understand what it means to act ethically and responsibly as an
    individual in one's career and as a member of society.

☐ To develop and maintain a healthy lifestyle physically, mentally, and
    spiritually.

☒ To appreciate the ongoing values of learning, self-improvement, and
    career planning.

EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:
[Outcomes related to course specific goals.]
Upon completion of the course, the student will be able to:

Using basic technical drawing principles employed in industry, the student will:

1. Learn the basics in lettering, sketching, and the alphabet of lines used in
drafting.
2. Learn electronic symbols used in drafting and how to apply them to different
electronic drafting diagrams, including schematics, single line wiring diagrams and logic
diagrams.
3. Learn the principles behind printed circuit board design and the routing of pcb
component location and circuitry.
4. Learn to create printed circuit board layout, drill and trim, and assembly drawings from
engineering specifications
5. Learn computer graphic principles as they apply to the latest release of
AutoCAD.

COURSE TOPICS AND CONTENT REQUIREMENTS:

1.   Creating Diagrams; Block, Single Line, Flowcharts
2.   Electrical Schematics
    a.   Electronic Symbols
    b.   Standards
    c.   Modifications
    d.   Logic Diagrams
3.   Wiring Diagrams
    a.   Point to point wiring diagrams

           b.   Highway wiring diagrams
           c.   Baseline wiring diagrams
           d.   Harness assemblies
4.   Printed Circuit Boards
           a.   Manufacturing process and design
           b.   Component location
           c.   Routing considerations
           d.   Creating the required drawings

INSTRUCTIONAL METHODS:
Lecture
Lab
Group Projects

INSTRUCTIONAL MATERIALS:
Electronics Drafting, John Frostad,

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:

Completion of assigned problems, required reading of text.
Periodic tests.
Group Projects
Problem Based Learning

OTHER REFERENCES

Course Competency/Assessment Methods Matrix

CAD 1203 Electronic Drafting	Assessment Options																														
For each competency/outcome place an "X" below the method of assessment to be used.	Assessment of Student Learning	Article Review	Case Studies	Group Projects	Lab Work	Oral Presentations	Pre-Post Tests	Quizzes	Written Exams	Artifact Self Reflection of Growth	Capstone Projects	Comprehensive Written Exit Exam	Course Embedded Questions	Multi-Media Projects	Observation	Writing Samples	Portfolio Evaluation	Real World Projects	Reflective Journals	Applied Application (skills) Test	Oral Exit Interviews	Accreditation Reviews/Reports	Advisory Council Feedback	Employer Surveys	Graduate Surveys	Internship/Practicum /Site Supervisor Evaluation	Licensing Exam	In Class Feedback	Simulation	Interview	Written Report	Assignment
Assessment Measures – Are direct or indirect as indicated. List competencies/outcomes below.	Direct/ Indirect	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	I	I	I	I	D	D						
1. Learn the basics in lettering, sketching, and the alphabet of lines used in drafting.				X	X		X	X	X			X	X		X			X		X			X					X				X
2. Learn electronic symbols used in drafting and how to apply them to different electronic drafting diagrams, including schematics, single line wiring diagrams and logic diagrams.				X	X		X	X	X			X	X		X			X		X			X					X				X
3. Learn the principles behind printed circuit board design and the routing of pcb component location and circuitry.				X	X		X	X	X			X	X		X			X		X			X					X				X
4. Learn to create printed circuit board layout, drill and trim, and assembly drawings from engineering specifications				X	X		X	X	X			X	X		X			X		X			X					X				X
5. Learn computer graphic principles as they apply to the latest release of AutoCAD.				X	X		X	X	X			X	X		X			X		X			X					X				X