

**NEOSHO COUNTY COMMUNITY COLLEGE  
MASTER COURSE SYLLABUS**

**COURSE IDENTIFICATION**

Course Code/Number: MFGT 122

Course Title: Welding Blueprint Reading

Division:  Applied Science (AS)  Liberal Arts (LA)  Workforce Development (WD)  
 Health Care (HC)  Lifetime Learning (LL)  Nursing  Developmental

Credit Hour(s): 3

Effective Date: Fall 2013

Assessment Goal Per Outcome: 75 %

**COURSE DESCRIPTION**

In this course students will be provided exposure to blueprint reading beginning with identification of specific lines, views, abbreviations, symbols, joints and shapes specific to the welding industry. Students will interpret basic 3D sketches using orthographic projection and blueprints and solve mathematic equations and interpret scale ratios. Use of measuring tools and interpreting a Bill of Materials are also components of this course.

**MINIMUM REQUIREMENTS/PREREQUISITES AND/OR COREQUISITES**

None

**TEXTS**

The official list of textbooks and materials for this course is found on [myNeosho](http://www.neosho.edu/myNeosho).

<http://www.neosho.edu/ProspectiveStudents/Registration/CourseSyllabi.aspx>

**GENERAL EDUCATION OUTCOMES**

1. Practice Responsible Citizenship through:

- identifying rights and responsibilities of citizenship,
  - identifying how human values and perceptions affect and are affected by social diversity,
  - identifying and interpreting artistic expression.
2. Live a healthy lifestyle (physical, intellectual, social) through:
    - listing factors associated with a healthy lifestyle and lifetime fitness,
    - identifying the importance of lifetime learning,
    - demonstrating self-discipline, respect for others, and the ability to work collaboratively as a team.
  3. Communicate effectively through:
    - developing effective written communication skills,
    - developing effective oral communication and listening skills.
  4. Think analytically through:
    - utilizing quantitative information in problem solving,
    - utilizing the principles of systematic inquiry,
    - utilizing various information resources including technology for research and data collection.

### **COURSE OUTCOMES/COMPETENCIES (as Required)**

1. Identify basic lines, views, and abbreviations used in blueprints
  - a. You will demonstrate your competence:
    - i. by identifying lines and views using instructor-provided materials and or resources
  - b. Your performance will be successful when:
    - i. you identify types of lines associated with industrial blueprints
    - ii. you identify the views associated with an orthographic projection
    - iii. you identify the placement of the views of an orthographic projection on a 2D surface
    - iv. you utilize abbreviations where appropriate
2. Interpret basic 3D sketches using orthographic projection and blueprints
  - a. You will demonstrate your competence:
    - i. through a written or oral instructor-provided evaluation tool
    - ii. by providing a layout of a provided sketch
  - b. Your performance will be successful when:
    - i. you describe each view of an orthographic projection
    - ii. you explain the part based on the view
    - iii. you accurately layout the part based on the sketches tolerances
3. Solve applicable mathematical equations
  - a. You will demonstrate your competence:
    - i. you utilize mathematical equations to perform an assigned task
  - b. Your performance will be successful when:
    - i. you demonstrate use of fractions and decimals
    - ii. you compute areas
    - iii. you compute volumes
    - iv. you use basic geometric equations
4. Use basic measuring tools
  - a. You will demonstrate your competence:
    - i. by using multiple measuring devices

- b. Your performance will be successful when:
    - i. you use a variety of measuring tools and layout devices appropriate to the task
    - ii. you can read a tape measure to a minimum of 1/16th of an inch or 1 mm
- 5. Interpret scale ratios on a blueprint
  - a. You will demonstrate your competence:
    - i. by completing a series of scale conversions
    - ii. using instructor-provided materials
  - b. Your performance will be successful when:
    - i. you apply appropriate mathematical principles to assigned tasks
- 6. Identify basic welding joints and structural shapes
  - a. You will demonstrate your competence:
    - i. by identifying basic welding joints and structural shapes in a written or oral evaluation
    - ii. using instructor-provided materials
  - b. Your performance will be successful when:
    - i. you identify welding joints
    - ii. you identify structural shapes
- 7. Interpret a Bill of Materials
  - a. You will demonstrate your competence:
    - i. by interpreting a Bill of Materials
    - ii. by using an instructor-provided blueprint
  - b. Your performance will be successful when:
    - i. you identify the material description
    - ii. you identify the quantities of materials
    - iii. you identify parts and item numbers
- 8. Identify standard AWS weld symbols
  - a. You will demonstrate your competence:
    - i. by identifying standard AWS welding symbols
    - ii. using an instructor-provided blueprint
  - b. Your performance will be successful when:
    - i. you identify a joint design
    - ii. you identify a weld process
    - iii. you identify other symbol's components

## **MINIMUM COURSE CONTENT**

Minimum course content is reflected in the competencies under each outcome. Additional content may be added.

## **STUDENT REQUIREMENTS AND METHOD OF EVALUATION**

### INSTRUCTIONAL METHODS

1. Lecture
2. Audio-Visual aids

3. Example and demonstration
4. Lab practice
5. Class discussions
6. Field trips and guest speakers
7. Tests (written)
8. Skills tests (performance-based)

Evaluation of student performance is determined primarily from results of written and performance tests to validate mastery of course competencies. Due to the nature of the class, student participation, teamwork, courtesy, honesty, and adherence to safety policies are required. Students are required to take the 3<sup>rd</sup> party testing examination. Boots will be required to work in the lab.

Grade evaluation will be broken up into four parts, each worth 25% of final grade. These four parts are as follows:

1. Lab work, which includes all welds and cuts performed in the shop.
2. Classroom work, which includes all written assignments, exams and projects made from a blueprint.
3. Attendance.
4. Conduct, which includes: safety, work habits, attitude, being trustworthy and ethical.

Safety and Health examination must be passed at 100%

#### GRADING SCALE

On objective materials, the following scale is used:

90-100 %	A
80-89 %	B
70-79 %	C
60-69 %	D
0-59 %	F

Student competence is achieved by obtaining a minimum of 75% on written tests and by passing visual inspections.

American Welding Society standards will be applied when accessing lab work. Students must meet AWS levels of competence to pass the course.

#### **ASSESSMENT OF STUDENT GAIN**

Students will be assessed through written testing. Practical application will be assessed on the first attempt at the skill and again at the conclusion of the course. Comparison will determine the extent of student gain.

## **Attendance Policy**

1. NCCC values interactive learning which promotes student engagement in the learning process. To be actively engaged, the student must be present in the learning environment.
2. Unless students are participating in a school activity or are excused by the instructor, they are expected to attend class. If a student's absences exceed one-eighth of the total course duration, (which equates to one hundred (100) minutes per credit hour in a face-to-face class) the instructor has the right, but is not required, to withdraw a student from the course. Once the student has been dropped for excessive absences, the registrar's office will send a letter to the student, stating that he or she has been dropped. A student may petition the chief academic officer for reinstatement by submitting a letter stating valid reasons for the absences within one week of the registrar's notification. If the student is reinstated into the class, the instructor and the registrar will be notified. Please refer to the Student Handbook/Academic Policies for more information
3. Absences that occur due to students participating in official college activities are excused except in those cases where outside bodies, such as the State Board of Nursing, have requirements for minimum class minutes for each student. Students who are excused will be given reasonable opportunity to make up any missed work or receive substitute assignments from the instructor and should not be penalized for the absence. Proper procedure should be followed in notifying faculty in advance of the student's planned participation in the event. Ultimately it is the student's responsibility to notify the instructor in advance of the planned absence.

## **ACADEMIC INTEGRITY**

NCCC expects every student to demonstrate ethical behavior with regard to academic pursuits. Academic integrity in coursework is a specific requirement. Definitions, examples, and possible consequences for violations of Academic Integrity, as well as the appeals process, can be found in the College Catalog, Student Handbook, and/or Code of Student Conduct and Discipline.

## **ELECTRONIC DEVICE POLICY**

Student cell phones and other personal electronic devices not being used for class activities must not be accessed during class times unless the instructor chooses to waive this policy.

## **NOTE**

Information and statements in this document are subject to change at the discretion of NCCC. Students will be notified of changes and where to find the most current approved documents.

## **ACCOMMODATIONS**

If you are a student with a disability who may need accommodation(s), in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, please notify the Dean of Student Services in the Student Services Office, Sanders Hall, 620-432-0304, on the Chanute Campus, or the Dean for the Ottawa and Online Campuses, 785-248-2798, on the Ottawa Campus as soon as possible. You will need to bring your documentation for review in order to determine reasonable accommodations, and then we can assist you in arranging any necessary accommodations.

## **NON-DISCRIMINATION POLICY**

The following link provides information related to the non-discrimination policy of NCCC, including persons with disabilities. Students are urged to review this policy.

<http://www.neosho.edu/Departments/NonDiscrimination.aspx>

## **SEXUAL MISCONDUCT POLICY (TITLE IX)**

At NCCC, it is the responsibility of an instructor to help create a safe learning environment in the classroom, including both physical and virtual classrooms. All instructors are considered mandatory reporters at NCCC, therefore any information regarding sexual misconduct that is shared by a student in one-on-one meetings with the instructor must be reported to appropriate personnel at the College. Instructors will keep the information private to the greatest extent possible, but it is not confidential. Generally, climate surveys, classroom writing assignments or discussions, human subjects research, or events such as Take Back the Night events do not provide notice that must be reported to the Coordinator by employees, unless the reporting party clearly indicates that they wish a report to be made.

The following link provides information related to the sexual misconduct policy of NCCC, including resources, reporting options, and student rights. Students are urged to review this policy.

<http://www.neosho.edu/TitleIX.aspx>

## **COURSE NOTES**