CIM210 Quality Assurance

I. CATALOGUE DESCRIPTION

A. Pre-requisite: MTT116 Dimensional Metrology and Reading Proficiency

B. 3 Credit Hours

C. In this course the students will learn different types of part inspections. This class will utilize the Coordinate Measuring Machine, surface plate, Height gages, and Optical Comparator to set up and lay out parts for the final inspection process. All measurements and lay outs will be compared to precision part blueprints. (S)

II. EXPECTED LEARNING OUTCOMES / ASSESSMENT MEASURE

| Students will use vocabulary peculiar to the trade | In-class discussion, homework, and quizzes |
| Students will create part set ups on surface plate and height gage | Inspection sheet, homework, blueprints, instructor observation, quizzes, and final exam |
| Students will inspect parts on an Optical Comparator | Inspection sheet, homework, blueprints, instructor observation, quizzes, and final exam |
| Students will construct set ups on the Coordinate Measuring Machine (CMM) | Homework, CMM printout, instructor observation, quizzes, and final exam |
| Students will perform and print inspections utilizing the CMM | Homework, CMM printout, instructor observation, quizzes, and final exam |
| Students will compare accuracies of finished parts to blueprints | Inspection sheet, instructor observation, quizzes, and final exam |

III. OUTLINE OF TOPCIS

A. CMM
   1. Part origin
   2. Drawing origin
3. Surfaces  
4. Tools  
5. Hole locations  
6. Diameter measurements  
5. Feature layouts  
8. Parallelism  
9. Perpendicularity  
10. Squareness  

B. Optical Comparator  
1. Part origin  
2. Drawing origin  
3. Surfaces  
4. Tools  
5. Hole locations  
6. Diameter measurements  
7. Feature layouts  
8. Parallelism  
9. Perpendicularity  
10. Squareness  

IV. METHOD(S) OF INSTRUCTION  

A. Lecture  

B. Discussion  

C. Lab  

V. REQUIRED TEXTBOOK(S)  

Krulikowski, Alex, *Ultimate GD&T Pocket Guide*, (Current Edition), Effective Training  

VI. REQUIRED MATERIALS  

A. Textbooks  

B. Pencil  

C. Calculator
E. Flash Drive

F. Composition Notebook

G. Spiral Notebook

VII. SUPPLEMENTAL REFERENCES

Machine Manuals are located at the machine tools in the lab.

VIII. METHOD OF EVALUATION

A. Homework 20%

B. Attendance 10%

C. Lab Assignments 40%
   (Inspection sheets, printouts, etc.)

D. Final Examination 15%

E. Quizzes 15%

IX. ADA AA STATEMENT

Any student requiring special accommodations should inform the instructor and the Coordinator of Disability Support Services (Technology Center 101; phone 636-481-3169).

X. ACADEMIC HONESTY STATEMENT

All students are responsible for complying with campus policies as stated in the Student Handbook (see College website, http://www.jeffco.edu).

XI. ATTENDANCE STATEMENT

Regular and punctual attendance is expected of all students. Any one of these four options may result in the student being removed from the class and an administrative withdrawal being processed: (1) Student fails to begin class; (2) Student ceases participation
for at least two consecutive weeks; (3) Student misses 15 percent or more of the coursework; and/or (4) Student misses 15 percent or more of the course as defined by the instructor. Students earn their financial aid by regularly attending and actively participating in their coursework. If a student does not actively participate, he/she may have to return financial aid funds. Consult the College Catalog or a Student Financial Services representative for more details.

XII. OUTSIDE OF CLASS ACADEMICALLY RELATED ACTIVITIES

The U.S. Department of Education mandates that students be made aware of expectations regarding coursework to be completed outside the classroom. Students are expected to spend substantial time outside of class meetings engaging in academically related activities such as reading, studying, and completing assignments. Specifically, time spent on academically related activities outside of class combined with time spent in class meetings is expected to be a minimum of 37.5 hours over the duration of the term for each credit hour.