Degree Applicable

Glendale Community College
November 2014

COURSE OUTLINE

Industrial Technology 202
CAQI/QM/QS System Diagnostics Module

I. Catalog Statement

Industrial Technology 202 examines the knowledge required to establish a system diagnostic process. This includes the use of data and tools to maintain system performance in a dynamic environment.

Total Lecture Units: 1.0
Total Course Unites: 1.0

Lecture Hours: 16.0
Total Faculty Contact Hours: 16.0

Recommended Preparation: Eligibility for English 120 or ESL 151.

II. Course Entry Expectations

Prior to enrolling in the course, the student should be able to:

1. summarize, analyze, and synthesize information, express and apply standards for judgment, compare and contrast, and evaluate evidence in order to form and state reasoned opinions;
2. demonstrate a command of grammar, diction, syntax, and mechanics sufficient for college level work: control of standard English at the sentence level, with few major errors in grammar and punctuation.

III. Course Exit Standards

Upon successful completion of the required coursework, that student will be able to:

1. diagnose a system in a dynamic environment;
2. identify the root cause of a symptom;
3. understand the use of performance data and tools.

IV. Course Content — Total Faculty Contact Hours = 16

A. System Diagnostics — 4 hours
   1. Types of troubleshooting
   2. Establishing a logical systematic analysis process

3. Diagnose multiple sub-systems
4. The practical step by step system diagnostic process

B. Performance Data and Tools 4 hours
1. Evaluate and analyze data to identify the root cause
2. Examine sub-system examples
3. The operation method
4. Relevant charts
5. Relevant tools and instruments
6. A practical point by point investigative process

C. Applied Diagnostic Methodology 4 hours
1. Diagnose a heating/ventilation and air conditioning (HVAC) system to determine the root cause of a reported symptom using a step by step process
2. How to use HVAC system information forms and charts

D. Gathering and Reporting Information 4 hours
1. How to interact with the client
2. Generating a written field report
3. Execute the elimination of the root causes
4. Re-evaluate the system and revise operating data

V. Methods of Instruction

The following instructional methodologies may be used in the course:
1. lecture;
2. demonstrations;
3. multi-media.

VI. Out of Class Assignments

The following out of class assignments may be used in the course:
1. essay (e.g. written response to system diagnostic scenario/s);
2. essay (e.g best practices for interacting with clients and writing field reports).

VII. Methods of Evaluation

The following methods of evaluation may be used in the course:
1. quizzes;
2. final examination.

VIII. Textbook

Institute of Heating and Air Conditioning Industries, Inc., *IHACI – Systems Diagnostics Module*.
Glendale, CA: Institute of Heating and Air Conditioning Industries, Inc. 2014. Print.
12th Grade Textbook Reading Level.

IX. Student Learning Outcomes

Upon completion on the required coursework, the student will be able to:

1. use the step by step method to diagnose heating and ventilation problems in a dynamic environment;
2. know how to use and evaluate data with applicable instruments/tools;
3. generate a comprehensive field report.