

## **Curriculum Gap Analysis Instructions**

Thank you for agreeing to assist CARCAM in performing a curriculum gap analysis. This ensures that the AUT program content meets current industry needs and standards. Information gathered in this process assists us with adopting curricula additions and further review of curriculum content. Please review and share your feedback on the attached questionnaire and accompanying Plan-of-Instruction (**POI**).

### **About the Plan-of-Instruction (POI)**

The POI is a course control document, designed by the instructors, which contain the minimum competencies in each course. **Competencies** are broad skills that graduating students have developed to be successful in **ENTRY LEVEL** positions. The POI's designed enable instructors the liberty to use various techniques and equipment to deliver the concepts/principles reflected in the POI.

The POI contains the minimum competencies required for a particular course, allowing instructor flexibility to tailor their instruction and include topics that are germane to their local industry. The POIs are divided into modules of instruction that generally group around a particular topic. POIs will be different based on the course content with no minimum or maximum numbers of modules.

Each module contains a description and an outline of general topics covered in that module providing the reader a brief overview of what a specific module is about.

Each module is separated into Four Segments:

- 1) The first segment is the **Professional Competency**. Generally, one sentence that attempts to capture in a macro view what the student should know or be able to do when they complete this module. (There may be more than one Professional Competency in a module depending on the material.) The Professional Competency is not necessarily a measurable statement.
- 2) The second segment contains the **Performance Objectives**. These are broad, general statements capturing the essence of what the student needs to accomplish to satisfy the requirements of the course. The instructors will build their lab components and evaluation instruments from these statements.
- 3) The third segment is the **Learning Objectives**. These statements are the concepts students will need to understand to satisfy the cognitive tests, lab components, and performance objectives.

- 4) The last area is the **KSA**, which refers to the level of knowledge, skill, and ability the student will need to attain to be successful in the course. Please refer to Fig.1: Reference Chart. The KSAs indicate the depth and scope of instruction provided and measurement required.

It is reasonable to expect that, if a student understands the Learning Objectives and is successful in completing the Performance Objectives then it is likely that he/she can execute on the Professional Competency level.

The instructions below apply to all review documents.

- 1) Please review the POIs attached and mark your responses on the questionnaire **by placing only one check per question** with additional comments as necessary, and return the entire document.
- 2) We welcome your comments and ask that you provide specific content recommendations for needed changes.

Thank you for your participation in this very important research.

Sincerely,

Beverly Hildebrand  
CARCAM Center Director

**Please provide your contact information for further curriculum discussion and development. The following information will be used to help us better understand your company and technician requirements. Combined anonymous results will be reviewed and reported to the National Science Foundation and used by CARCAM to update curriculum content.**

Date \_\_\_\_\_ Name and Contact  
Information \_\_\_\_\_

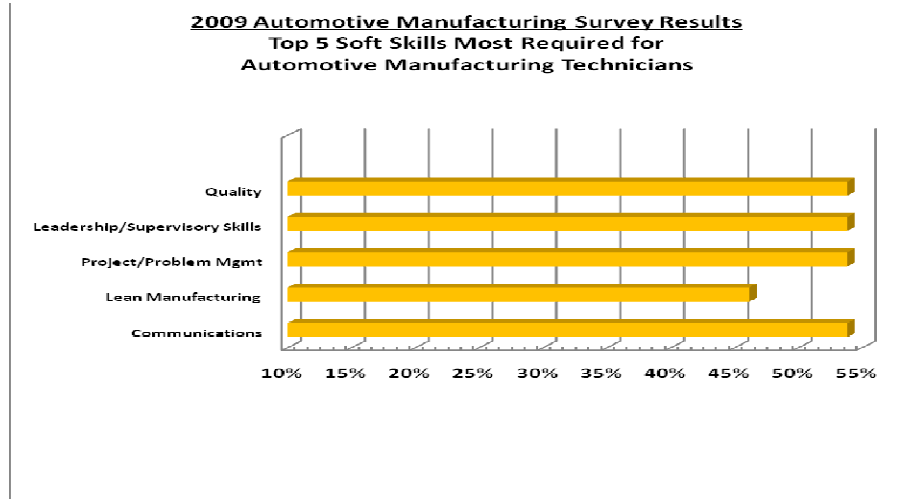
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Company  
Name \_\_\_\_\_

Describe the major manufacturing processes used at your facility (for example:  
machining, welding, robotics, automation & controls, etc)

\_\_\_\_\_

## 2009 CARCAM Industry Needs Assessment Survey Results



### Knowledge, Skills, and Abilities (KSA)

Knowledge, Skills, and Abilities		
Indicator	Student/worker Possesses	Description
1	Limited Knowledge and Proficiency	Identifies basic facts and terms about the subject or competency. Performs simple tasks associated with the competency. Needs to be told or shown how to do most tasks. Requires close supervision.
2	Moderate Knowledge and Proficiency	Identifies relationship of basic facts and states general principles and can determine step-by-step procedures for doing the competency. Performs most parts of the competency. Needs help only on hardest parts. Requires limited supervision.

3	Advanced Knowledge and Proficiency	<p>Analyzes facts and principles and draws conclusions about the subject to include why and when the competency must be done and why each step is needed. Can predict outcomes.</p> <p>Performs all parts of the competency. Needs only a spot check of completed work.</p> <p>Requires little or no direct supervision.</p>
4	Superior Knowledge and Proficiency	<p>Can evaluate conditions and make appropriate decisions as related to resolving problems.</p> <p>Performs competency quickly and accurately with no direct supervision and is able to instruct and supervise others.</p>

**Figure 1: Reference Chart**