Glendale Community College
STUDENT LEARNING OUTCOMES & CORE COMPETENCIES WORKSHEET

Course or Program: Computer Numerical Control Technician, Certificate and A.S.

Semester: Spring 2011_

Division/Department: Tech and Aviation

Directions: *This model is suggested, but not mandatory:*

Column 1. Write one SLO in each row (samples on page 2). Use action verbs (samples on page 3). In most cases, 3-6 SLOs are recommended.

Column 2. Write your measurement method(s) and progress indicator(s) in each row for each SLO.

Column 3. Using the list of Core Competencies (Institutional Learning Outcomes) on pages 4 & 5, list each of the Core Competencies addressed by each SLO in each row.

Column 4. Choosing from the list of "Expected Exit Levels" of Competency (below), write the appropriate <u>overall</u> level for each SLO.

| 1 = Knowledge | 2 = Comprehension | 3 = Application | 4 = Analysis | 5 = Synthesis | 6 = Evaluation |

Student Learning Outcome	**Assessment Method(s) and/or Progress Indicator(s)**	**Core Competency (or Competencies)**	**Expected Exit Level**
Students will enter the workforce with the necessary skills and knowledge to succeed in an entry level position as a CNC Technician.	May Include: Employer Survey and Interviews Alumni Surveys Student Exit Interviews		

Sample SLOs

1 = Knowledge	2 = Comprehension	3 = Application	4 = Analysis	5 = Synthesis	6 = Evaluation

Student Learning Outcome	Assessment Method(s) / Progress Indicator(s)	Core Competency (or Competencies)	Expected Exit Level
Women's History class: A student will be able to compare and contrast the issues that led women to challenge the status quo in three different eras in the twentieth century.	Writing assignments, Research projects, Short answer quizzes and tests, Essay question tests.	1 a, b 3 a, b, c, d 4 a, b, c, e 5 b, d, f	6
Intro to Word Proc for Students with Visual Impairments: Student will demonstrate the ability to independently create, save, modify and print a document using a word processing program and appropriate assistive technology.	Lab assignments, Skills demonstrations, Midterm and Final projects.	1 a, b 3 b, c 7 a	3

Student Learning Objectives (SLO)
Action Verb List

ENMU   Academics   Special Programs   Assessment Resource Office   Faculty Assessment   Assessment Manual
Action Verb List

Assessment Manual   Suggested Verbs to Use in Each Level of Thinking Skills
    Below are terms (verbs) that can be used when creating student learning outcomes for a course or degree program.

Knowledge	Comprehension	Application
Count	Associate	Add
Define	Compute	Apply
Describe	Convert	Calculate
Draw	Defend	Change
Identify	Discuss	Classify
Labels	Distinguish	Complete
List	Estimate	Compute
Match	Explain	Demonstrate
Name	Extend	Discover
Outlines	Extrapolate	Divide
Point	Generalize	Examine
Quote	Give examples	Graph
Read	Infer	Interpolate
Recall	Paraphrase	Manipulate
Recite	Predict	Modify
Recognize	Rewrite	Operate
Record	Summarize	Prepare
Repeat		Produce
Reproduces		Show
Selects		Solve
State		Subtract
Write		Translate
Use		

Analysis	Synthesis	Evaluation
Analyze	Categorize	Appraise
Arrange	Combine	Assess
Breakdown	Compile	Compare
Combine	Compose	Conclude
Design	Create	Contrast
Detect	Drive	Criticize
Develop	Design	Critique
Diagram	Devise	Determine
Differentiate	Explain	Grade
Discriminate	Generate	Interpret
Illustrate	Group	Judge
Infer	Integrate	Justify
Outline	Modify	Measure
Point out	Order	Rank
Relate	Organize	Rate
Select	Plan	Support
Separate	Prescribe	Test
Subdivide	Propose	
Utilize	Rearrange	
	Reconstruct	
	Related	
	Reorganize	
	Revise	

Source:
http://www.enmu.edu/academics/exeellenee/assessment/faculty/manual/verb_list.shtml   *(10/9/2006)*

GCC CORE COMPETENCIES *(Institutional Learning Outcomes)*

1) Communication
    a) Reading
    b) Writing
    c) Listening
    d) Speaking and/or Conversing and/or Debating
    e) Interpersonal Interactions

Definition: Learners express themselves clearly and concisely to others in logical, well-organized papers and/or verbal presentations using documentation and quantitative tools when appropriate. Learners listen, understand, debate, and use information communicated by others.

2) Mathematical Competency/Quantitative Reasoning
    a) Interpret and Construct Mathematical Models
    b) Solve Problems Using Quantitative Models
    c) Construct Arguments Using Numerical/Statistical Support

Definition: Learners understand, interpret, and manipulate numeric or symbolic information; solve problems by selecting and applying appropriate quantitative methods such as arithmetic, quantitative reasoning, estimation, measurement, probability, statistics, algebra, geometry and trigonometry; and present information and construct arguments with the use of numerical and/or statistical support.

3) Information Competency
    a) Research Strategies
    b) Information Location/Retrieval
    c) Evaluation of Information
    d) Ethical & Legal Use of Information

Definition: Learners recognize the need for information and define a research topic; select, access, and use appropriate sources to obtain relevant data; evaluate sources for reliability and accuracy; and use information in an ethical and legal manner.

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4) Critical Thinking
a) Evaluation
b) Analysis and/or Synthesis
c) Interpretation and/or Inference
d) Problem Solving
e) Construct and/or Deconstruct Arguments

Definition: Learners evaluate the credibility and significance of information, effectively interpret, analyze, synthesize explain, and infer concepts and ideas; solve problems and make decisions; and construct and deconstruct arguments.

5) Global Awareness and Appreciation:
a) Scientific Complexities
b) Social and Cultural Diversity
c) Artistic Expression and Variety
d) Ethical Reasoning
e) Environmental Issues
f) Politics

Definition: Learners recognize and analyze the interconnectedness of global, national, and local concerns, analyzing cultural, political, social and environmental issues from multiple perspectives; they recognize the interdependence of the global environment and humanity.

6) Personal Responsibility
a) Self Management
b) Self Awareness
c) Physical Wellness
d) Study Skills

Definition: Learners demonstrate an understanding of the consequences, both positive and negative, of their own actions; set personal, academic and career goals; and seek and utilize the appropriate resources to reach such goals.

7) Application of Knowledge
a) Computer Skills
b) Technical Skills
c) Workplace Skills
d) Lifelong Learning

Definition: Learners maintain, improve and transfer academic and technical skills to the workplace; demonstrate life-long learning skills by having the ability to acquire and employ new knowledge; and set goals and devise strategies for personal and professional development.