OET-012 Computer Aided Drafting **TAG Rubric** **MET**

The purpose of this guide is to provide a range of knowledge at which students can demonstrate proficiency for each objective. Subsequent college course success depends strongly on courses taught primarily at the "some applied skills present" and "applied skills strongly demonstrated" levels.

Objective	Applied skills strongly demonstrated	Some applied skills present	Little applied skills present	No applied skills Present
1. **Demonstrate an in-depth proficiency of a commercial CAD system.***	• Students are able to create and manipulate engineering drawings with little to no assistance.	• Students can operate a CAD system to produce /edit engineering drawings on a CAD system.	• Students are able to utilize a CAD system to reproduce/edit engineering drawings.	• N/A
2. **Draw a variety of components utilizing orthographic drawings.***	• Students are able to draw orthographic views from complex objects. • Student is able to create first and third angle projection drawings.	• Student can draw basic orthographic drawings. • Familiar with first and third angle projections.	• Student can interpret basic orthographic drawings.	• Students can identify orthographic views.
3. **Detail, dimension and specify tolerances on engineering drawings.***	• Students can create multiple tolerance styles. • Student can set up multiple dimension styles in a CAD program.	• Students can implement appropriate dimensioning system or type; baseline, datum, and string.	• Students can add appropriate dimensions. • Student can demonstrate specific tolerance styles.	• Students can recognize basic detailed dimensions and tolerance on drawings.
4. **Utilize and apply the principles of sections to draw sectional views.***	• Students can assess best section view. • Student can select and apply graphical material annotations.	• Students can project section views.	• Students can draw a predetermined section view.	• Students can identify a section view. • Student can identify section types.
5. **Understand the principles of primary auxiliary views.***	• Students can determine auxiliary views necessary to completely detail drawings.	• Students can project auxiliary views.	• Students can draw a predetermined auxiliary view.	• Students can identify an auxiliary view.

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6. **Prepare an assembly drawing, details of the assembly, and a bill of materials.***	• Students can determine/produce all necessary drawings/documents for a complete assembly drawing pack.	• Students can produce a complete assembly drawing pack based on predetermined parts.	Students can reproduce assembly drawing packs.	• Students can identify necessary documents to include in an assembly drawing pack.
7. **Draw a multiple sheet/multiple part working drawing.***	• Students can create multiple sheet/multiple part working drawing	• Students can draw and organize predetermined multiple sheet/multiple part working drawings for predetermined parts.	• Students can draw predetermined multiple sheet/multiple part working drawings.	• Students can identify multiple sheet/multiple part drawings.
8. **Use PC based CAD programs to create 3D solid models***	• Students have developed 3D spatial visualization.	• Students can create objects using primitive solids and Boolean operations.	• Instructor has demonstrated 3D capabilities of software.	• N/A
9. Gain an appreciation of the ANSI Y14.5M-1982 graphics standard by identifying and understanding the symbols and terminology.	• Students can apply appropriate details and symbols on a drawing to improve part function and manufacturing.	• Students can create appropriate details and symbols on a drawing, based on part function.	• Students can create appropriate details and symbols on a drawing.	• Students can reproduce appropriate dimensions and symbols on a predetermined drawing
10. Understand the standard engineering symbols and prepare engineering diagrams.	• Students can create engineering diagrams to solve engineering problems.	• Students can produce engineering diagrams with appropriate symbols.	• Students can produce predetermined engineering diagrams and apply engineering symbols not given.	• Students can produce predetermined engineering diagrams.

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11. Prepare electrical connection wiring diagrams.	•	•	•	•
12. Introduce Geometric Dimension & Tolerancing (GD&T)	• Students can determine appropriate GD&T dimensions, tolerances, and symbols for a given part and manufacturing process.	• Students can apply GD&T dimensions and tolerances on an engineering drawing	• Students can reproduce symbols associated with GD&T practices.	• Students can recognize GD&T dimensions.