

# CAD Competency Outline

## Understand and be knowledgeable of ANSI Standards and CADD Standards

1. Select appropriate media for task/job.  
**AAI 4. Technical and Production Skills:** Identify specific production and technical skills required for this industry.  
**AAI 5. Underlying Principles of Technology:** Explain through discussion the technological systems used within this industry.
2. Demonstrate the use of drawing instruments to complement drafting media.
3. Construct sketches to conceptualize ideas or objects.
4. Construct sketches to describe an object.
5. Identify and reproduce forms, shapes, and constraints.
6. Demonstrate and apply coordinate systems.
7. Demonstrate planning in the layout process to standards.  
**AAI 4. Technical and Production Skills:** Identify specific production and technical skills required for this industry.
8. Demonstrate the proper selection of surfaces to construct a drawing.
9. Demonstrate view organization and projection.
10. Construct the proper section view.
11. Construct proper auxiliary view.
12. Construct proper detail drawing.
13. Identify and reproduce material selection.
14. Describe an object to: size, location, precision.
15. Demonstrate proper placement of dimensions.
16. Organize and finalize general notes and attributes.
17. Prepare and itemize a bill of materials.
18. Produce visual and/or oral presentation.

## Understand the fundamental concepts of entrepreneurship

19. Discuss and assess venture creation possibilities and identify the steps in planning the venture.  
**AAI 1. Planning:** Explain the key elements of a long-term plan for a successful company.  
**AAI 2. Management:** Discuss the different forms of management and ownership within this industry.  
**AAI 3. Finance:** Explain the key components of financial management of a company.
20. Identify the resources needed for venture startup and operation.
21. Discuss the options in planning the venture's future (growth, development, demise).  
**AAI 6. Labor Issues:** Explain the employees' and employers' rights and responsibilities in this industry.  
**AAI 7. Community Issues:** Discuss the ways a company can impact its community and the ways a community can impact a company.
22. Identify and discuss the traits and behaviors of an entrepreneur (leadership, personal assessment, personal management).

## Understand the importance of personal growth, leadership and career success

23. Demonstrate personal growth, community leadership, democratic principles, and social responsibility by participating in activities/events offered through student organizations.

**Understand the key concepts associated with high performance/  
employability skills (SCANS)**

24. Decision-Making & Problem-Solving: Demonstrate and apply good decision-making and problem-solving skills by outlining issues in situations/problems and determining, collecting, and organizing information needed in order to formulate a solution.
25. Self –Management: Demonstrate and apply self-management skills by adhering to regulations, being responsible, and following through on commitments.  
**AAI 9. Personal Work Habits:** Explain the work habits an employer looks for in an employee in this industry.
26. Communication Skills: Demonstrate and apply effective communication skills: verbal, written, visual, and listening.
27. Ability to Work with Others: Demonstrate and apply the necessary skills in order to work effectively with others.
28. Information Use - Research, Analysis, Technology: Demonstrate and apply the use of information through research, analysis, and technology.
29. Mathematical Concepts: Demonstrate mathematical and computation skills as applied to real world situations.
30. General Safety: Demonstrate and apply safe practices and procedures in the workplace.  
**AAI 8. Health, Safety, and Environment:** Explain the health and safety laws and practices affecting the employee, the surrounding community, and the environment in this industry.
31. Career Development: Demonstrate personal/career development skills by completing a career plan.