

CTESTAR™ Course Task List

Pathway

Engineering/Manufacturing and Industrial Technology

Course

Beginning Architectural Drafting

Instructor

Mr. John Smith

Number

07110

Section

4

Host School

Demo High School

01 WORKPLACE SAFETY

01.01 Maintain safe working environment

- 01.01.01 Maintain clean work area by removing waste, keeping alleyways clear, cleaning tools, and preventing spills
- 01.01.02 Identify visual equipment controls (e.g., monitors, read outs)
- 01.01.03 Comply with workplace safety rules and procedures
- 01.01.04 Comply with personal safety rules and procedures
- 01.01.05 Recycle appropriate materials

02 DRAFTING TECHNOLOGY

02.01 Apply basic drafting skills

- 02.01.01 Use drafting equipment
- 02.01.02 Identify line types (alphabet of lines)
- 02.01.03 Select proper drawing scale, introduction to different types
- 02.01.04 Prepare title blocks and other drafting formats
- 02.01.05 Apply freehand and other lettering techniques
- 02.01.06 Prepare multi-view drawings
- 02.01.07 Prepare multi-view sketches
- 02.01.08 Prepare orthographic views
- 02.01.09 Measure angles
- 02.01.10 Draw horizontal, vertical, angular, parallel, and perpendicular lines
- 02.01.11 Construct tangent lines (to arcs) and tangent arcs (to arcs)
- 02.01.12 Bisect angles and arcs
- 02.01.13 Bisect lines
- 02.01.14 Divide lines
- 02.01.15 Construct three-point circle
- 02.01.16 Construct regular hexagon, and octagon
- 02.01.17 Reproduce a drawing
- 02.01.18 Prepare single-view drawings
- 02.01.19 Prepare working drawings
- 02.01.20 Interpret notes and dimensions
- 02.01.21 Draw arcs, and circles.
- 02.01.22 Transfer measurements
- 02.01.23 Identify current ANSI symbols/standards

02.02 Apply intermediate drafting skills

- 02.02.01 Prepare isometric and oblique sketches
- 02.02.02 Prepare sectional views
- 02.02.03 Prepare auxiliary views
- 02.02.04 Prepare views of drilled and tapped holes, counterbores, countersinks

- 02.02.05 Identify a bill of materials
- 02.02.06 Describe purpose of auxiliary and sectional views
- 02.02.07 Dimension drawings per current ANSI standards

02.03 Apply advanced drafting skills

- 02.03.01 Prepare pictorial drawings
- 02.03.02 Interpret various drawings

02.04 Interpret basic prints

- 02.04.01 Visualize object from drawing
- 02.04.02 Interpret orthographic projections
- 02.04.03 Interpret isometric views
- 02.04.04 Interpret sectional views
- 02.04.05 Interpret detail and assembly drawings
- 02.04.06 Interpret dimensions
- 02.04.07 Interpret screw thread specifications

02.05 Convert dimensions and tolerances

- 02.05.01 Convert dimensions and tolerances from English units to metric units
- 02.05.02 Convert dimensions and tolerances from metric units to English units

02.06 Apply revision control process

- 02.06.01 Apply drawing balloons
- 02.06.02 Apply documentation (including project filing, back-up material, tracking process)
- 02.06.03 Apply change control block

02.07 Demonstrate dimensioning techniques

- 02.07.01 Construct arrowheads
- 02.07.02 Add labels/notes to drawing
- 02.07.03 Dimension arcs
- 02.07.04 Dimension angles
- 02.07.05 Dimension curves
- 02.07.06 Dimension rounded-end shapes
- 02.07.07 Dimension cylindrical objects
- 02.07.08 Dimension features on circular center line

02.08 Apply geometric dimensioning and tolerancing

- 02.08.01 Interpret decimal tolerance dimensions
- 02.08.02 Calculate clearance fit tolerances of mating parts
- 02.08.03 Calculate interference fit tolerances of mating parts
- 02.08.04 Calculate tolerances to mating parts using standard fit tables
- 02.08.05 Calculate transitional fit tolerances

02.09 Prepare mechanical drawings

- 02.09.01 Prepare assembly drawings
- 02.09.02 Prepare casting drawings

02.10 Prepare advanced mechanical drawings

- 02.10.01 Resolve problems by descriptive geometry
- 02.10.02 Prepare fastener drawings

03 CADD FUNDAMENTALS

03.01 Demonstrate basic use of computer operating system

- 03.01.01 Explain rules for naming files and directories
- 03.01.02 Manage files
- 03.01.03 Copy files
- 03.01.04 Rename files
- 03.01.05 Erase files
- 03.01.06 Format diskettes

03.02 Operate a CADD system

- 03.02.01 Use keyboard input
- 03.02.02 Use screen menus
- 03.02.03 Create scaled plots
- 03.02.04 Operate a printer/plotter (e.g., laser plotter)

03.03 Select entities for action

- 03.03.01 Add or remove entities separately
- 03.03.02 Add or remove entities using a window
- 03.03.03 Add or remove entities with a crossing-box

03.04 Create 2-D orthographic drawings

- 03.04.01 Draw utilizing absolute Cartesian coordinates
- 03.04.02 Draw utilizing relative Cartesian coordinates
- 03.04.03 Draw utilizing polar coordinates
- 03.04.04 Draw using construction aides (e.g., snaps, grid, snap)
- 03.04.05 Edit drawing entity properties (e.g., color, layer, thickness, linetype)
- 03.04.06 Construct drawing entities (e.g., offset, timer, extend, break, mirror)
- 03.04.07 Edit drawing entities (e.g., offset, trim, extend, break, mirror)
- 03.04.08 Create layers
- 03.04.09 Name layers
- 03.04.10 Save files
- 03.04.11 Create hatches, patterns, symbols

03.05 Dimension orthographic drawings

- 03.05.01 Apply dimensions per standards
- 03.05.02 Edit text

03.06 Control display

- 03.06.01 Apply view control while drawing (e.g., zoom and pan)
- 03.06.02 Save views
- 03.06.03 Display views

03.07 Create 2-D isometric drawings

- 03.07.01 Explain isometric projection
- 03.07.02 Manipulate isometric snap and grid settings
- 03.07.03 Toggle isometric planes (e.g., left, right, top)

04 EMPLOYABILITY SKILLS

04.01 Develop a career plan

- 04.01.01 Identify current interests and aptitudes
- 04.01.02 Identify career options
- 04.01.03 Identify job requirements
- 04.01.04 Investigate education/training opportunities (including speaking with someone in the trade)

04.02 Prepare for employment

- 04.02.01 Research job opportunities
- 04.02.02 Compare salary ranges and benefit packages
- 04.02.03 Demonstrate ability to accurately complete a job application
- 04.02.04 Design resume and cover letter
- 04.02.05 Secure references
- 04.02.06 Explain critical importance of personal appearance, hygiene, and demeanor
- 04.02.07 Write letter of acceptance
- 04.02.08 Write letter of declination
- 04.02.09 Demonstrate good listening skills

04.03 Demonstrate job retention skills

- 04.03.01 Identify employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
- 04.03.02 Exhibit appropriate work habits and attitude

- 04.03.03 Demonstrate ability to set priorities
- 04.03.04 List consequences of being absent frequently from job
- 04.03.05 List consequences of frequently arriving late for work

04.04 Exhibit appropriate work ethic

- 04.04.01 Avoid personal activity during work hours
- 04.04.02 Attend work as scheduled
- 04.04.03 Exercise confidentiality
- 04.04.04 Adhere to rules of conduct
- 04.04.05 Accept constructive criticism
- 04.04.06 Take pride in work
- 04.04.07 Demonstrate punctuality
- 04.04.08 Assume responsibility for personal decisions and actions
- 04.04.09 Take responsibility for assignments
- 04.04.10 Follow chain of command

04.05 Exhibit characteristics for job advancement

- 04.05.01 Display positive attitude
- 04.05.02 Demonstrate knowledge of position
- 04.05.03 Perform quality work
- 04.05.04 Adapt to changing situations and technology
- 04.05.05 Participate in continuing education/training program
- 04.05.06 Prepare for job setbacks

04.06 Identify performance expectations of a job.

- 04.06.01 Practice good work habits/time management.
- 04.06.02 Be a team player.
- 04.06.03 Demonstrate respectful behavior in workplace.
- 04.06.04 Maintain knowledge and skills.

05 COMMUNICATIONS

05.01 Read, interpret, and analyze technical materials, discerning information and concepts.

- 05.01.01 Use appropriate note-taking methods.
- 05.01.02 Write and/or present a report on technical literature; use graphical tools as appropriate.

06 INFORMATION TECHNOLOGY APPLICATIONS

06.01 Develop good safety and health practices.

- 06.01.01 Exercise good safety practices.
- 06.01.02 Encourage others to employ safe practices.

07 LEADERSHIP AND TEAMWORK

07.01 Exercise the ability to lead or follow in a team environment.

- 07.01.01 Appropriately give/take credit and responsibility.
- 07.01.02 Divide tasks among a team of three, with no designated leader.
- 07.01.03 Communicate effectively verbally and non-verbally with team colleagues.
- 07.01.04 Act responsibly as a team member, completing assigned tasks in a timely and effective manner.
- 07.01.05 Delegate tasks, responsibility and authority as appropriate.

07.02 Exercise leadership and teamwork skills.

- 07.02.01 Identify roles of team members.
- 07.02.02 Recognize individual abilities and the importance of forming teams with others whose abilities are complementary.
- 07.02.03 Use teamwork skills to achieve goals, solve problems, and manage conflict.
- 07.02.04 Give and receive feedback constructively.

08 ETHICS AND LEGAL RESPONSIBILITIES

08.01 Adhere to ethical and legal standards.

08.01.01 Make ethical decisions when presented with ethical choices or moral dilemmas.

08.01.02 Follow legal requirements for the treatment of people in the workplace. (ADA, EEO).