

Intermediate Computer Aided Design and Drafting

Subject: CaBe46 (e)-3 (e) (Be46 (a)2.1 (nd T)10.1 (e) (c)6.48.hni)5.1 (c)6.3 (a)2.1 (l)5.1 ()-12 (E)-0.9 (duc)6.48.ation

Grade: 10

Expectations: 96

- (iii) demonstrate knowledge of the skills related to health in the workplace as specified by appropriate governmental regulations
 - (iv) demonstrate knowledge of the skills related to safety in the workplace as specified by appropriate governmental regulations
- (D) evaluate and justify decisions based on ethical reasoning;
- (i) evaluate decisions based on ethical reasoning
 - (ii) justify decisions based on ethical reasoning
- (E) evaluate alternative responses to workplace situations based on personal, professional, ethical, and legal responsibilities and employer policies;
- (i) evaluate alternative responses to workplace situations based on personal responsibilities
 - (ii) evaluate alternative responses to workplace situations based on professional responsibilities
 - (iii) evaluate alternative responses to workplace situations based on ethical responsibilities
 - (iv) evaluate alternative responses to workplace situations based on legal responsibilities
 - (v) evaluate alternative responses to workplace situations based on employer policies
- (F) identify and explain personal and long-term consequences of unethical or illegal behaviors in the workplace;
- (i) identify personal consequences of unethical or illegal behaviors in the workplace
 - (ii) identify long-term consequences of unethical or illegal behaviors in the workplace
 - (iii) explain personal consequences of unethical or illegal behaviors in the workplace
 - (iv) explain long-term consequences of unethical or illegal behaviors in the workplace
- (G) interpret and explain written organizational policies and procedures; and
- (i) interpret written organizational policies
 - (ii) interpret written organizational procedures
 - (iii) explain written organizational policies
 - (iv) explain written organizational procedures
- (H) demonstrate personal responsibility, ethics, and integrity, including respect for intellectual property, when accessing information and creating design projects.
- (i) demonstrate personal responsibility, including respect for intellectual property, when accessing information
 - (ii) demonstrate personal responsibility, including respect for intellectual property, when creating design projects
 - (iii) demonstrate ethics, including respect for intellectual property, when accessing information
 - (iv) demonstrate ethics, including respect for intellectual property, when creating design projects
 - (v) demonstrate integrity, including respect for intellectual property, when accessing information
 - (vi) demonstrate integrity, including respect for intellectual property, when creating design projects

- (2) The student demonstrates an understanding of CADD terminology, tools, and symbols. The student is expected to:
- (A) apply the Cartesian Coordinate Systems to illustrate the application of Z coordinates;
 - (i) apply the Cartesian Coordinate Systems to illustrate the application of Z coordinates
 - (B) describe the CADD menu structure;
 - (i) describe the CADD menu structure
 - (C)

(4) The student demonstrates an understanding of commands in a CADD system. The student is expected to:

(A) operate CADD software;

(i) operate CADD software

(B) demonstrate draw commands;

(i) demonstrate draw commands

(C) modify drawn objects in CADD software;

(i) modify drawn objects in CADD software

(D) create two-dimensional anxsign-ttc 0.005ujEMC Td()TjEMC /LBody /MCID0.005 Tc -0.002 Tw 1.807 0 Td(m)8.8 (o)1.9 (di)5.1

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(C) edit dimensions;

(i) edit dimensions

(D) work with dimension styles;

(i) work with dimension styles

(E) crosshatch objects;

(i) crosshatch objects

(F) isolate and hide objects;

(i) isolate objects

(ii) hide objects

(G) use selection methods to isolate and hide objects

- (N) use specific line types using the Standard Alphabet of Lines;
 - (i) use specific line types using the Standard Alphabet of Lines
 - (O) create fills and gradients; and
 - (i) create fills
 - (ii) create gradients
 - (P) edit hatch patterns and fills.
 - (i) edit hatch patterns
 - (ii) edit fills
- (6) The student creates drawings using the CADD software. The student is expected to:
- (A) translate hand sketches into CADD software;
 - (i) translate hand sketches into CADD software
 - (B) create projected mechanical drawings;
 - (i) create projected mechanical drawings
 - (C) create drawings with external references;
 - (i) create drawings with external references
 - (D) complete a three-dimensional parametric model;
 - (i) complete a three-dimensional parametric model
 - (E) organize a complex assembly, including an animated exploded assembly;
 - (i) organize a complex assembly, including an animated exploded assembly
 - (F) compare various methods of drawing solids;
 - (i) compare various methods of drawing solids
 - (G) construct a composite drawing using multiple drawings;
 - (i) construct a composite drawing using multiple drawings
 - (H) justify correct drawing methods;
 - (i) justify correct drawing methods
 - (I) draw lines, arcs, and circles to represent plans or mechanical assemblies;
 - (i) draw lines to represent plans or mechanical assemblies
 - (ii) draw arcs to represent plans or mechanical assemblies
 - (iii)

- (E) prepare wiring drawings;
 - (i) prepare wiring drawings
 - (F) prepare cable drawings and/or harness drawings;
 - (i) prepare cable drawings and/or harness drawings
 - (G) prepare component drawings; and
 - (i) prepare component drawings
 - (H) prepare logic diagrams.
 - (i) prepare logic diagrams
- (8) The student creates mechanical drawings. The student is expected to:
- (A) prepare fastener, cam, gear, spring, and bearing drawings;
 - (i) prepare fastener drawings
 - (ii) prepare cam drawings
 - (iii) prepare gear drawings
 - (iv) prepare spring drawings
 - (v) prepare bearing drawings
 - (B) prepare detail drawings;
 - (i) prepare detail drawings
 - (C) prepare surface developments;
 - (i) prepare surface developments
 - (D) prepare welding drawings;
 - (i) prepare welding drawings
 - (E) prepare bearing drawings;
 - (i) prepare bearing drawings
 - (F) prepare casting drawings;
 - (i) prepare casting drawings
 - (G) prepare forging drawings;
 - (i) prepare forging drawings
 - (H) prepare tool drawings;
 - (i) prepare tool drawings
 - (I) prepare molding diagrams;
 - (i) prepare molding diagrams
 - (J) prepare stamping drawings;
 - (i) prepare stamping drawings

- (K) prepare numerical-control drawings;
 - (i) prepare numerical-control drawings
- (L) modify drawings to include material specifications and parts list; and
 - (i) modify drawings to include material specifications
 - (ii) modify drawings to include parts list
- (M) identify geometric tolerances and dimensioning of specific machined surfaces.
 - (i) identify geometric tolerances of specific machined surfaces
 - (ii) identify geometric dimensioning of specific machined surfaces

(9) The student prepares CADD project designs. The student is expected to:

- (A) develop a CADD project design.

- (J) demonstrate flexibility and adaptability throughout the design process; and
 - (i) demonstrate flexibility throughout the design process
 - (ii) demonstrate adaptability throughout the design process
- (K) define a basic project materials list.
 - (i) define a basic project materials list