

Every manufactured product in the world must be defined in the form of solid models and/or engineering drawings performed by a drafter or designer. In defining a product, an extensive process of design and evaluation must take place before it is ready to be manufactured. The drafter, who is a key link in the design engineering and manufacturing steps, must possess a working knowledge of design principles, material properties, and manufacturing processes to bring together the final product design using models and working drawings. The drafter uses CAD (Computer-Aided Drafting) technology to produce the necessary design models and detail drawings. At KCC, CAD technology is introduced at the very beginning of the curriculum and is used throughout the program for the completion of drawings and models. The Computer-Aided Drafting and Design program at KCC uses two of the most popular CAD packages in industry, AutoCAD® and SolidWorks®, to produce all drawings and models. As reflected in the curriculum, CAD majors are required to complete a variety of technical subjects relating to design including materials science, manufacturing processes, mathematics, and physics. This provides the student with the foundation of knowledge needed to successfully function in a engineering environment. The drafting and design curriculum leads to an associate in applied science degree, and the recommended high school units of study for the program are outlined in this catalog. Students interested in transferring to a four-year institution should see a drafting and design advisor for information on transfer programs.

### General Education

The following courses provide skills that are necessary in carrying out normal job-oriented functions, as well as helping to develop an articulate, healthy, well-informed citizen.

	CREDITS
<b>Communications 101</b> , Foundations of Interpersonal Communication or <b>111</b> , Business and Technical Communication or <b>207</b> , Public Speaking . . . . .	3
<b>English 151</b> , Freshman Composition . . . . .	3
<b>Creativity Elective</b> . . . . .	2-3
<b>Global Awareness Elective</b> . . . . .	3
<b>Healthy Living Elective</b> . . . . .	2-3
13-15	

### Required Career Courses

	CREDITS
<b>Drafting 101</b> , Engineering Graphics . . . . .	4
<b>Drafting 120</b> , Machine Drafting . . . . .	3
<b>Drafting 141</b> , Descriptive Geometry . . . . .	3
<b>Drafting 181</b> , Applications in AutoCAD® . . . . .	3
<b>Drafting 211</b> , Dimensioning and Tolerancing . . . . .	3
<b>Drafting 221</b> , Architectural Drafting . . . . .	3
<b>Drafting 234</b> , SolidWorks® . . . . .	3
<b>Drafting 252</b> , Advanced SolidWorks® . . . . .	3
<b>Drafting 262</b> , Engineering Design . . . . .	3
<b>Math 118</b> , Applied Algebra & Trigonometry I . . . . .	3
<b>Math 119</b> , Applied Algebra & Trigonometry II . . . . .	3
<b>Physics 111</b> , Introductory Physics I . . . . .	4
<b>Office Information Technology 161</b> , Applications Software . . . . .	3
<b>Engineering Technology 160</b> , Manufacturing Processes . . . . .	3
<b>Engineering Technology 170</b> , CNC and CAM . . . . .	3
<b>Engineering Technology 215</b> , Material Science . . . . .	3
<b>Engineering Technology 220</b> , Statics and Strength of Materials . . . . .	3
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The two-year sequence of courses recommended for the full-time student is:

Fall	Spring
DRAF 101	DRAF 120
OIT 161	DRAF 181
ENGL 151	DRAF 234
HIST 221	MATH 118
Heathy Living Gen. Ed.	Creativity Gen. Ed.

**Summer**  
ENTE 160  
ENTE 170

Fall	Spring
DRAF 141	DRAF 211
DRAF 221	DRAF 262
DRAF 252	ENTE 220
ENTE 215	PHYS 111
MATH 119	COMM 101, 111, or 207