BARTON COMMUNITY COLLEGE

**COURSE SYLLABUS**

1. **GENERAL COURSE INFORMATION**

Course Number: DRAF 1841

Course Title: Computer-Aided Drafting and Design II

Credit Hours: 3

Prerequisites: DRAF 1840 Computer-Aided Drafting and Design I

Division/ Discipline: Workforce Training and Economic Development/Drafting

Course Description: This course builds on the foundation of Computer Aided Drafting I as a continuation of the study of the basic elements in Computer Aided Drafting and Design. Selected drawing and design projects will be completed using 3D solid modeling software for comprehension of parametric modeling, assembly models, and visualizations. Upon completion of the course, students will be prepared to take the Autodesk Inventor Certified User Exam, an official, industry-standard credential recognized by schools and employers.

1. **INSTRUCTOR INFORMATION**
2. **COLLEGE POLICIES**

Students and faculty of Barton Community College constitute a special community engaged in the process of education. The College assumes that its students and faculty will demonstrate a code of personal honor that is based upon courtesy, integrity, common sense, and respect for others both within and outside the classroom.

Plagiarism on any academic endeavors at Barton Community College will not be tolerated. The student is responsible for learning the rules of, and avoiding instances of, intentional or unintentional plagiarism. Information about academic integrity is located in the Student Handbook.

The College reserves the right to suspend a student for conduct that is determined to be detrimental to the College educational endeavors as outlined in the College Catalog, Student Handbook, and College Policy & Procedure Manual. (Most up-to-date documents are available on the College webpage.)

Any student seeking an accommodation under the provisions of the Americans with Disability Act (ADA) is to notify Student Support Services via email at [disabilityservices@bartonccc.edu](mailto:disabilityservices@bartonccc.edu).

1. **COURSE AS VIEWED IN THE TOTAL CURRICULUM**

This is one of a series of technical courses for the Drafting Technology program. This course is designed to develop useful, job-oriented skills. It is highly recommended for individuals entering the fields of architecture, drafting, engineering, interior decorating and design, or the machine trades. If students are planning to enter an engineering program at a university, each student should verify with the transfer university how this course will transfer.

The transferability of all college courses will vary among institutions, and perhaps even among departments, colleges, or programs within an institution. Institutional requirements may also change without prior notification. Students are responsible to obtain relevant information from intended transfer institutions to insure that the courses the student enrolls in are the most appropriate set of courses.

## ASSESSMENT OF STUDENT LEARNING

Barton Community College is committed to the assessment of student learning and to quality education. Assessment activities provide a means to develop an understanding of how students learn, what they know, and what they can do with their knowledge. Results from these various activities guide Barton, as a learning college, in finding ways to improve student learning.

Course Outcomes, Competencies, and Supplemental Competencies:

1. Utilize 3D solid modeling software
   1. Create files using the 4 primary environments
   2. Interact with software using the menu bar, ribbon, and browser
   3. Navigate by using the viewcube and shortcut keys
   4. Manage files by creating projects and storing in library
2. Create 2D Sketches
   1. Complete a 2D sketch using the appropriate draw tools
   2. Constrain sketch by using geometric constraints and parametric dimensions
   3. Modify a 2D sketch by using the appropriate modify tools
   4. Utilize pattern tools when creating a sketch
   5. Format sketch by using appropriate format tools
3. Construct Parts
   1. Create parts by using appropriate create feature tools
   2. Modify and place features
   3. Utilize work features for creating and positioning new features
   4. Utilize pattern tools during part creation
   5. View and apply properties
4. Create Assemblies
   1. Create assemblies by placing, grounding and constraining parts
   2. Animate assemblies by using drive constraints
   3. Utilize the Adaptive design approach in an assembly model
5. Create Drawings
   1. Utilize templates to create part and assembly drawings
   2. Create drawing layouts from solid models
   3. Create auxiliary and section views
   4. Annotate and create parts lists for drawings
6. Create Sheet Metal Parts
   1. Complete a sheet metal parts busing the appropriate create tools
   2. Modify a sheet metal part by using the appropriate modify tools
   3. Create and export a flat pattern
7. Create presentations and visualizations
   1. Use a presentation to tweak parts and animate the view
   2. Create rendered images
   3. Animate an assembly
8. **INSTRUCTOR’S EXPECTATIONS OF STUDENTS IN CLASS**
9. **TEXTBOOKS AND OTHER REQUIRED MATERIALS**
10. **REFERENCES**
11. **METHODS OF INSTRUCTION AND EVALUAITON**
12. **ATTENDANCE REQUIREMENTS**
13. **COURSE OUTLINE**