TOOL AND DIE MAKING (439)

Tool and Die Making (439)

439-181. SolidWorks for Tool Design 1. (2 Credits)
Students will learn basic part modeling, creating various configurations of a part, assembly modeling, editing models and assemblies, and generating detail part and assembly drawings.
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=181)

439-314. Mold Design. (1 Credit)
Mold design concentrates on injection mold design. Instruction builds on the student's knowledge of blueprint reading and machine tool theory. The student will receive instruction in the development of a complete mold design and through the construction process of the assembled molds. The student will receive instruction in various design concepts, as well as, the molding process and its relationship to mold design, mold making, and mold repair.
Prerequisites: (439-331 (may be taken concurrently) with a minimum grade of C)
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=314)

439-324. Die Design. (1 Credit)
This course is designed to further the student's knowledge of die making by having them create the cross-sectional views of the projects that they are making in the tool and die making course. The student is also required to design and make a working retractable disappearing stop for a long-leg die project. Students will draw the working details and an assembly view for their disappearing stop.
Prerequisites: (439-341 (may be taken concurrently) with a minimum grade of C)
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=324)

439-331. Tool and Die Moldmaking 1. (5 Credits)
Prepare for an entry-level position in a moldmaking tool and die shop by enhancing your knowledge of blueprint reading and machine tool operation. Explore the construction of a two-cavity family mold. Use numerous conventional and computerized machine tools throughout the molding process. Trial run the completed mold. Develop a plan and implement mold corrections. Analyze an existing mold or work on a larger mold project as part of a team. Learn various molding processes, including plastic injection molding.
Prerequisites: 420-323 with a minimum grade of C and 420-324 with a minimum grade of C and 420-316 with a minimum grade of C and (420-386 with a minimum grade of C or 420-186 with a minimum grade of C)
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=331)

439-332. Tool and Die Moldmaking 2. (5 Credits)
Develop the skills needed for an entry-level position in a moldmaking tool and die shop by enhancing your knowledge of blueprint reading and machine tool operation. Study the construction of a two-cavity family mold. Use numerous conventional and computerized machine tools throughout the moldmaking process. Trial run the completed mold. Create a plan, and implement mold corrections. Take part in various shop projects such as analyzing an existing mold or participating as a member of a team on a larger mold project. Learn various molding processes, including plastic injection molding.
Prerequisites: (439-331 (may be taken concurrently) with a minimum grade of C)
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=332)

439-341. Tool and Die Stamping 1. (5 Credits)
Develop skills and knowledge through critical thinking and practical application in the construction of progressive dies. Construct two progressive pierce and blank dies that will produce the parts for a non-twist clamp. Make the necessary hardware that turns the stamped pieces into five separate working clamps. Perform the various machining tasks necessary for entry-level employment in various areas of the machining industry. Develop self-reliance while building machining skills.
Prerequisites: 420-323 with a minimum grade of C and 420-324 with a minimum grade of C and 420-316 with a minimum grade of C and (420-386 with a minimum grade of C or 420-186 with a minimum grade of C)
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=341)

439-342. Tool and Die Stamping 2. (5 Credits)
Hone skills and knowledge through critical thinking and practical application in the construction of progressive dies. Construct two progressive pierce and blank dies that will produce the parts for a non-twist clamp. Make the necessary hardware to turn the stamped pieces into five separate working clamps. Learn how to perform the various machining tasks necessary for entry-level employment in various areas of the machining industry. Develop self-reliance while building machining skills.
Prerequisites: 439-341 (may be taken concurrently) with a minimum grade of C
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=342)

439-561. Solidworks Tool & Die Appr. (1.75 Credits)
Use 3D modeling software SolidWorks to create and design single- and multiple-configuration solid models. Create assemblies and assembly drawings using configuration part models, and model advanced part features.
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=561)

439-562. Die Design. (1.75 Credits)
Explore the terminology, techniques, design aspects and construction of stamping dies and their related components.
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=562)

439-563. Comp Assist Prog T&D Appr. (1.75 Credits)
Gain exposure to lathe and 2 1/2 axis CAD programming software. Practice part geometry creation and editing. Build a solid foundation of geometric relationships, then tool-path several parts to acceptable machining practices.
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=563)

439-564. Moldmaking. (1.75 Credits)
Explore plastic injection mold construction and design. Investigate various molding processes and the implications for moldmaking and mold design. Evaluate traditional and nontraditional machining processes to determine appropriateness for a given application. Gain an introduction to 3D modeling and rapid prototyping.
See sections of this course (http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=439&num=564)