South Central College

CIM 2206  Mold and Die

Common Course Outline

Course Information

Description  The purpose of this course is to present the fundamentals of mold construction, processes involved in using molds, and die casting. The knowledge and skills presented in this course will introduce machinist to various terminology and functions of molds in industry. (Prerequisites: CIM 2106 - Jigs & Fixtures)

Total Credits  3.00
Total Hours  80.00

Types of Instruction

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Pre/Corequisites

Prerequisite  CIM 2106 - Jigs and Fixtures

Institutional Core Competencies

Analysis and inquiry: Students will demonstrate an ability to analyze information from multiple sources and to raise pertinent questions regarding that information.

Critical and creative thinking: Students will develop the disposition and skills to strategize, gather, organize, create, refine, analyze, and evaluate the credibility of relevant information and ideas.

Foundations and skills for lifelong learning: Students will display an understanding of learning as a lifelong process through demonstration of a desire to learn, the willingness to apply learning to other areas of their lives, the ability to think and act independently, be willing to take the initiative to get projects done, and demonstrate the ability to reflect upon what has occurred and how it impacts the student and others.

Teamwork and problem-solving: Students will demonstrate the ability to work together cohesively with diverse groups of persons, including working as a group to resolve any issues that arise.

Written and oral communication: Students will communicate effectively in a range of social, academic, and professional contexts using a variety of means, including written, oral, numeric/quantitative, graphic, and visual modes of communication.

Course Competencies

1  Utilize a variety of mold-related terminology.
Learning Objectives
Explain process terms such as shut off, parting line and vents.
Explain injection mold terms.
Differentiate between the terms cavity and core.

2 Explain types of plastic molds.
Learning Objectives
Identify plastic injection molds such as compression and transfer.
Describe thermal vacuum molds.

3 Identify aluminum die casting.
Learning Objectives
Discuss principle of aluminum die casting.
Discuss alloys used in die casting.
Identify cold chamber.

4 Explain mold components.
Learning Objectives
Discuss mold plates, pockets, cavities, etc.
Identify mold slides and locks.
Identify ejection systems.

5 Discuss heating and cooling of molds.
Learning Objectives
Describe steam channels.
Define oil heating.
Discuss water lines for cooling.

6 Explain runners and gates.
Learning Objectives
Identify purpose of the runner.
Discuss gates and gating on injection molds.
Identify cold slug.

7 Discuss methods of producing cores and cavities.
Learning Objectives
Identify equipment used to produce cores and cavities, such as Sinker & Wire Electrical Discharge Machines (EDM) and Computer Numerical Control (CNC).
Explore the processes involved in producing cores and cavities.

8 Discuss mold base preparation.
Learning Objectives
Identify different types of steel used in mold base preparation.
Discuss types of mold bases and plates.
Identify proper plate stack and stack height.

9 Explain mold finishing.
Learning Objectives
Discuss polishing of mold surfaces.
Identify supplies involved in polishing.
Describe methods and procedures in mold finishing.
Identify stones and diamond abrasives used in mold finishing.

SCC Accessibility Statement
If you have a disability and need accommodations to participate in the course activities, please contact your instructor as soon as possible. This information will be made available in an alternative format, such as Braille,
large print, or cassette tape, upon request. If you wish to contact the college ADA Coordinator, call that office at 507-389-7222.

Disabilities page [http://southcentral.edu/academic-policies/disability-rights.html](http://southcentral.edu/academic-policies/disability-rights.html)