CERRITOS COLLEGE

PLASTICS MANUFACTURING TECHNOLOGY (PMT) PROGRAMS TECHNICAL STANDARDS/ESSENTIAL FUNCTIONS

The following listing has been prepared to assist you in understanding the technical standards of the Plastics Manufacturing Technology program in order to affiliate in the industry and ultimately practice the profession. The technical standards as stated herewith are not conditions of admission to a program of study. Rather, they reflect performance abilities that are necessary for a student to successfully complete the requirements of the specified Technology program.

The purpose of this document is to notify prospective Plastics Manufacturing Technology students of these technical standards to enable them to make an informed decision regarding enrollment in the Plastics Manufacturing Technology program at Cerritos College.

The delivery of safe, effective practice requires that students be able to perform functions related to the technical standards outlined here. The inability of a student to perform these functions may result in the student being unable to meet course objectives and to progress in the Plastics Manufacturing Technology program. Additionally, if a student is unable to perform these required competencies, the student may pose a risk of harm to the customer(s) for whom service is provided.

All applicants meeting the appropriate academic requirements shall be considered equally for admission to Cerritos College or any academic program regardless of physical or mental disability, gender, gender identity, gender expression, nationality, race or ethnicity, religion, sexual orientation, age, marital status, or genetic information. (Education Code section 66270, Government Code section 11135, Penal Code section 422.6)

Technical Standards Essential Function	**Standard Performed Description**	**Examples of Activities (Not All Inclusive)**
Cognitive Ability	• Demonstrate ability to use logic and technical analysis to identify the strengths and weaknesses of different approaches to complete plastic fabrication tasks. • Demonstrate personal time management to complete projects by given deadlines. • Exhibit ability to translate written and/or verbal information into actual projects. • Demonstrate ability to execute work requirements in accordance with written instructions.	• Establish and manage time requirements for fabrication project completion. • Demonstrate judgment and decision making as required to organize various tasks to complete fabrication assignments and projects. • Determine solutions and procedures to guarantee conformance with tolerances and specifications.

Technical Standards Essential Function	Standard Performed Description	Examples of Activities (Not All Inclusive)
	• Exhibit deductive reasoning.	• Use self-evaluation of performance to determine new approaches for personal improvement. • Exhibit the ability to analyze documentation like blueprints and planning procedures specifications and then use this knowledge to build, fabricate, and produce projects. • Accept constructive criticism from instructor and implement recommendations and/or solutions for improvement.
Communication Ability	• Demonstrate use of multiple approaches to convey information. • Demonstrate ability to follow verbal directions. • Demonstrate ability to follow written directions. • Discuss directions and methods required to complete a specific fabrication task. • Demonstrate use of industry specific production terms to communicate information.	• Use a variety of strategies to convey the necessary production information required to complete a specific fabrication task or project. • Discuss available alternatives and methods that may be used to accomplish the objective. • Use oral expression, reading, and writing comprehension to verify the information was received. • Use fabrication terms to represent

Technical Standards Essential Function	Standard Performed Description	Examples of Activities (Not All Inclusive)
		information on blueprints, projects, work orders, and fabrication procedure specifications.
Interpersonal/ Intrapersonal Skills and Behavior	• Demonstrate awareness of other people's reactions and understand why they react the way they do and how you can improve the reception of your work. • Demonstrate ability to identify the nature of problems. • Demonstrate ability to collaborate with others in a group. • Demonstrate ability to maintain and control self-behavior in a group setting.	• Demonstrate respect for individual differences. • Assist peers in resolving problems or conflicts. • Respond appropriately to emergencies. • Work cooperatively within a group to achieve a goal. • Maintain appropriate self-behavior in a group and/or social environment like a classroom lecture or laboratory demonstration.
Visual Ability	• Exhibit recommended 20/20 vision -natural or corrected. • Exhibit accurate vision from 6" to 36" required. • Demonstrate ability to perform required task in both low and bright lighted environments. • Demonstrate ability to visually obtain information from technical drawings or written standards.	• Perform fabrication tasks from 6" to 36" with natural vision or corrected vision with contacts or glasses. • Identify visually material discontinuities and defects like: size, shape, undercut, or cracks. • Precision use of tools and measurement devices such as dial calipers, micrometers, height gages, or others using the thousandths or ten-

Technical Standards Essential Function	Standard Performed Description	Examples of Activities (Not All Inclusive)
		thousandths scale. • Demonstrate ability to read detailed orthographic blueprints, symbols, and fabrication procedure specifications.
Auditory Ability	• Demonstrate hearing ability sufficient to communicate with peers in close or far proximity. • Demonstrate hearing awareness of potentially hazardous industrial equipment. • Demonstrate ability to hear alarms, bells, sirens, and various other safety alerts. • Demonstrate ability to detect and/or identify noises on stationary equipment under load and/or being strained. • Tolerate exposure to extremely noisy and loud environments. • Demonstrate hearing ability sufficient to communicate with peers in close or far proximity. • Demonstrate hearing awareness of potentially hazardous industrial equipment. • Demonstrate ability to hear alarms, bells, sirens, and various other safety alerts. • Demonstrate ability to detect and/or identify noises on	• Communicate effectively with other manufacturing, plastics, composites students or peers inside of an industrial shop or in the field by voice, loud speaker, phone, and/or two-way radio. • Hear and detect safety hazards. • Hear and detect industrial equipment problems, overloading, and/or failures. • Demonstrate ability to accurately adjust fabrication equipment by sound. • Demonstrate ability to concentrate and perform fabrication duties while being exposed to an industrial noisy environment for lengthy periods of time. • Communicate effectively with other manufacturing, plastics, composites

Technical Standards Essential Function	Standard Performed Description	Examples of Activities (Not All Inclusive)
	stationary equipment under load and/or being strained. • Tolerate exposure to extremely noisy and loud environments.	students or peers inside of an industrial shop or in the field by voice, loud speaker, phone, and/or two-way radio. • Hear and detect safety hazards. • Hear and detect industrial equipment problems, overloading, and/or failures. • Demonstrate ability to accurately adjust fabrication equipment by sound. • Demonstrate ability to concentrate and perform fabrication duties while being exposed to an industrial noisy environment for lengthy periods of time.
Tactile Ability	• Demonstrate tactile ability sufficient for physical control of tools and equipment. • Demonstrate manual hand dexterity with repetitive precision movements and techniques. • Demonstrate ability to manually manipulate small parts less than 1/16” in diameter. • Demonstrate ability to tactically use multiple extremities	• Perform functions of physical control with various tools and equipment. • Perform repetitive production techniques in multiple positions with both hands simultaneously. For example, loading and unloading a fixture once the part is produced. • Demonstrate ability to have

Technical Standards Essential Function	Standard Performed Description	Examples of Activities (Not All Inclusive)
	simultaneously. • Demonstrate ability to use finger and hand pressure to grip various shaped objects.	individual hands perform different manual functions simultaneously. One hand holding a part and the other measuring one of the part's characteristics. • Demonstrate ability to manipulate and feed small parts tactically with hands and fingers. • Demonstrate ability to perform shop operations using both hands.
Olfactory Ability	• Demonstrate ability sufficient to detect contaminant odors in the workplace. • Demonstrate ability to detect gas leaks. • Exhibit identification ability when working with chemicals, solvents, and petroleum-based liquids. • Demonstrate ability to detect various burning materials. • Demonstrate ability to detect electrical and/or burning synthetic materials.	• Detect hazardous and/or objectionable plastic/composite fumes. • Detect specific flammable leaks in a plastics/composites shop environment. • Detect various burning materials. • Detect smells that represent a potential hazard such as smoke from a fire or burning electrical equipment and/or synthetic materials. • Tolerate the normal smells and fumes produced by machining processes with or without coolants.

Technical Standards Essential Function	Standard Performed Description	Examples of Activities (Not All Inclusive)
Strength and Mobility	• Demonstrate sufficient physical strength, mobility, and body positions to perform industrial plastic/composite fabrication, machining and cutting operations, including: standing, sitting, bending, crouching, kneeling, pushing and pulling, twisting, working overhead or working on the ground. • Demonstrate ability to push and pull industrial equipment up to 300 lbs. • Demonstrate ability to lift 50 lbs. from the ground to the overhead position. • Demonstrate ability to pick up and carry industrial building materials like: steel, rod, tube, angle, channel, and plastic/composite resins weighing up to 100 lbs. with assistance. • Demonstrate ability to lift, and move heavy plastic/composite molds or projects and/or structures manually or by chain fall, come-along, cables, straps, ropes, etc.	• Perform plastic/composite and cutting tasks requiring standing, sitting, bending, crouching, kneeling, pushing and pulling, twisting, working overhead and/or working at ground level. • Fabrication and cutting operations requiring repetitive movements of the arms, hands, wrists, and feet. Demonstrate the ability to perform these duties in uncomfortable positions for long periods of time while working with heavy tools, and equipment. • Demonstrate ability to lift raw material parts weighing 50 lbs. from the floor up to a shop table/bench usually at waist height. • Demonstrate ability to pick up and carry plastic/composite materials (sheet, rod, tube, angle, molds, resins etc.) and/or industrial equipment weighing up to 100 lbs. with assistance. • Demonstrate ability to work in numerous positions from on the ground to overhead as well as over, under, and around parts, projects

Technical Standards Essential Function	Standard Performed Description	Examples of Activities (Not All Inclusive)
		and/or structures.
Motor Skills	• Demonstrate physical abilities including: standing, sitting, walking, stooping, crawling, reaching, squatting, lifting, and bending. • Exhibit full range-of-motion of all extremities. • Demonstrate balance sufficient to conduct precision repetitive movements. • Demonstrate ability to keep balance and equilibrium when in various physical positions. • Demonstrate ability to perform controlled accurate movements, motor skills, and techniques with both hands and both arms independently and/or simultaneously.	• Demonstrate ability to perform physical plastics/composites operations in an industrial laboratory while wearing all required personal protective equipment. • Demonstrate ability to perform various fabrication and cutting tasks while the body is in an awkward and/or uncomfortable position. • Demonstrate ability to perform repetitive physical movements and motor skills intermittently and/or continuously for extended periods of time. • Demonstrate ability to continuously improve and further develop manual motor skills and fabrication techniques. • Demonstrate ability to develop and refine manual • dexterity motor skills to implement various fabrication techniques required to produce acceptable parts.
Physical Endurance	• Demonstrate sufficient physical endurance to complete assigned industrial work and/or production projects.	• Sit and/or stand for up to 8 hours a day with arms extended to waist

Technical Standards Essential Function	Standard Performed Description	Examples of Activities (Not All Inclusive)
	• Demonstrate ability to work with hands and arms extended overhead or below the waist for long periods of time. • Demonstrate ability to perform manual activities with industrial equipment for extended periods of time. • Demonstrate ability to work long extended overtime hours including weekends. • Demonstrate physical endurance to perform plastic/composite work duties in arduous environments like when ambient temperatures exceed 100° F.	level, face level and/or overhead positions while performing plastic/composite operations. • Make repetitive motions (fabrication techniques) for several hours with the hands, wrists, arms, and feet. • Perform manual operations for extended periods of time. • Operate and control plastic/composite machines working at up to 10,000 RPM. • Perform plastic/composite fabrication and cutting operations for up to 8 hours while wearing all required personal machining safety equipment while utilizing and working with fabrication equipment. • Perform strenuous fabrication and production activities in adverse conditions and environments that may be hot, cold, dusty, windy, noisy, and/or in direct sunlight
Environmental Tolerance	• Demonstrate ability to function safely in an industrial laboratory environment.	• Adapt and work in congested areas and/or confined spaces like a small machining or inspection area.

Technical Standards Essential Function	Standard Performed Description	Examples of Activities (Not All Inclusive)
	• Demonstrate ability to work inside for extended periods of time. • Tolerate exposure to industrial equipment and other potentially hazardous equipment like forklifts, manlifts, overhead cranes, shears, saws, and grinders.	• Perform production tasks and work in hot, dusty, noisy and/or highly ventilated forced air environments. • Tolerate odors and fumes associated with fabrication and cutting operations with various plastic/composite coolants. • Work indoors while wearing full protective fabrication safety equipment. • Tolerate exposure to an environment that contains industrial hazards like: heavy parts and molds, flammable gasses, sharp objects, trim saws, grinders, hydraulic and • electrical equipment.

Disability Statement:

If you have a disability or acquire one, you may be entitled to receive support services and/or accommodations intended to assure you an equal opportunity to participate in, and benefit from, the program. Reasonable accommodations for students with disability related needs will be determined on an individual basis taking into consideration the standards and essential skills which must be performed to meet the program objectives. To receive more information or to apply for services, please contact the Center for Access and Disability Services (CADS) at (562) 8602451 ext. 2335 or (562) 274-7164 (VP), or visit them in the Santa Barbara Building. All prospective and current Plastics Manufacturing Technology students must be able to meet these standards with or without reasonable accommodations.

Cerritos College is committed to providing an educational environment that is free from discrimination and harassment. We do not discriminate on the basis of race, color, national origin, sex, disability, age, or any other characteristic protected by law in any of our programs or activities. For more information regarding our policies, please contact our Director, Compliance, Diversity, & Title IX Coordinator at https://www.cerritos.edu/hr/

All career technical education (CTE) opportunities will be offered regardless of race, color, national origin, sex, or disability. Compliance with Title IX and Section 504/Title II are the responsibility of the District's Director of Diversity, Compliance, & Title IX.

Human Resources
Cerritos College | 11110 Alondra Blvd. Norwalk, CA 90650
Office (562) 860-2451, ext. 2468 | dctix@cerritos.edu