



Division of Science, Technology, Engineering, and Mathematics

Associates in Science in Mechanical Engineering

This program prepares students to demonstrate the full array of MassBay Community College graduation competencies and transfer to a Mechanical Engineering four-year program or gain employment in the mechanical engineering industry. By completing all program requirements, the program provides students with skills to continue their mechanical engineering education or gain employment as a mechanical designer or manufacturing technician.

Successful graduates will be able to:

1. Understand and apply engineering physics principles, knowledge of calculus and differential equations, and current methods of mechanics to implementing solutions to given engineering problems.
2. Collect and analyze strength of materials data using industry standard tools and applying safety techniques.
3. Gather and analyze mechanical system requirements and develop and document solutions that satisfies given parameters including convenience, feasibility, manufacturability, and safety.
4. Understand the needs of all team stakeholders and deliver requirements in a timely fashion while working on team projects.
5. Apply analytical reasoning, creative processes, and knowledge of CAD and finite element analysis technology to resolve design issues.
6. Understand and extrapolate data and specifications from technical resources and standards for application on drawings and project documentation.
7. Produce and present detailed engineering sketches, CAD drawings, and project reports.
8. Consider effectiveness, efficiency, sustainability and manufacturability in all design solutions
9. Critically read and evaluate research about engineering innovation and application.
10. Identify and discuss contemporary issues related to engineering challenges facing the world.
11. Develop professional documentation such as detailed 2D and 3D engineering drawings through CAD/CAM tools, and reports using productivity software.