Career Sheet: Understanding the Skills used in a Career of My Choice

Career Zone: Engineering Manufacturing and Industrial Technology

Career: Mechatronics Engineer

Description: Research, design, develop, or test automation, intelligent systems, smart devices, or industrial systems control.

Task Examples:

- Design engineering systems for the automation of industrial tasks.
- Create mechanical design documents for parts, assemblies, or finished products.
- Maintain technical project files.
- Implement or test design solutions.
- Create mechanical models and tolerance analyses to simulate mechatronic design concepts.
- Conduct studies to determine the feasibility, costs, or performance benefits of new mechatronic equipment.

Technology Skills Examples:

- **Analytical or scientific software** — Dassault Systemes Dymola; MSC Software Adams; The MathWorks MATLAB ; Vector CANalyzer
- **Computer aided design CAD software** — Autodesk AutoCAD ; Computer assisted software engineering CASE software; Dassault Systemes CATIA; Mentor Graphics VeSys Design
- **Computer aided manufacturing CAM software** — Rapid prototyping software

Software Application Example: Autodesk AutoCAD

AutoCAD® is computer-aided design (CAD) software that architects, engineers, and construction professionals rely on to create precise 2D and 3D drawings.

Features:

- Represent complex parts designs, cars, airplanes…
- Calculate volume of complex designs
- Determine distances and measurements of design objects
- Calculate proper fit
- Simulate motion of computer designed parts
- Calculate weight of product designing
- Calculate the amount of material needed to create a product
- Simulate product strength under load, and different environmental conditions