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Job Profile Level 3

Siemens Mechatronic Systems
Certification Program (SMSCP)

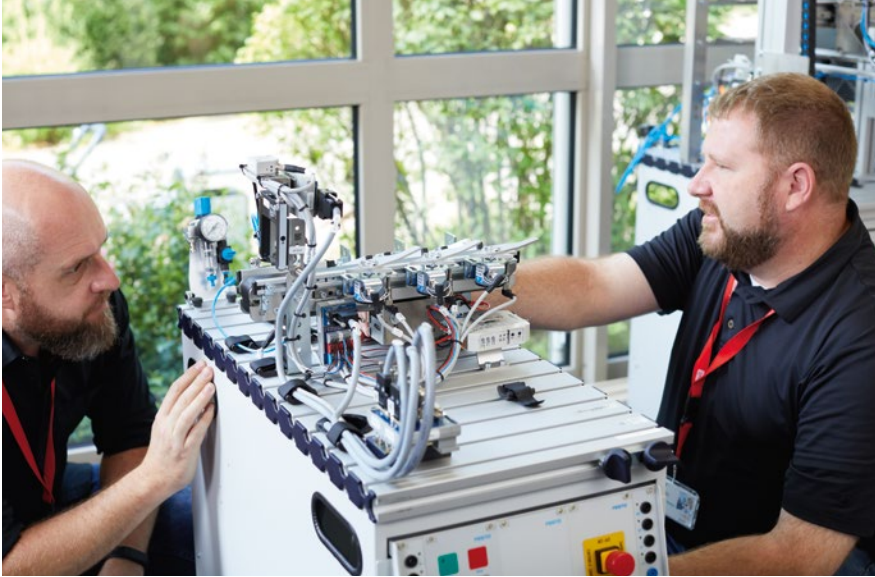
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Certified Mechatronic Systems Professional (Engineer)

A Siemens Certified Mechatronic Systems Professional will function as a skilled designer of, and expert on, complex mechatronic systems. A Certified Professional will be able to apply selected project and system engineering practices, such as requirements engineering, project management, process management, quality assurance, and management in a project, with the goal to design or improve a mechatronic system in accordance with customer and user needs.

Normally a Siemens Certified Mechatronic Systems Professional will carry out most of the work in an engineering office environment; however, they may also carry out some of their work at production facilities, workshops, and service sites that use complex mechatronic systems. Certified Professionals usually start their career as a member of a project team that is responsible for the design, management, and improvement of complex mechatronic systems.



He or she will be able to:

- understand and oversee the complete mechatronic system life cycle (e.g. impact on and from sales, marketing, production, suppliers, and maintenance)
- apply Project Management methods and tools
 - Understand the fundamentals of Project Management concepts like PMI and CMMI
 - Understand the principles of Team Management
- define the functional requirements of a mechatronic system with “use cases,” interviews with customers and users, and systems modeling techniques
 - Communication and documentation skills
 - System understanding
- perform high-level design by defining appropriate mechatronic systems to perform specific tasks
 - Utilize design methods and solutions
 - Transformation of customer “wish list” into technical mechatronic system specification
 - Validation of customer requirements and technical translation
- utilize knowledge of machine elements, actuators, pneumatics, and electric drives to design particular mechatronic systems
 - Understand and analyze the impact of new/changed mechatronic system parts from a technical point of view
 - Select the correct automation technology based on the mechanical and electronic composition of the system, while taking the functional requirements into account
 - Use CAD tools to create and communicate electrical and mechanical design ideas
 - Understand alternative engineering solutions – e.g. priority list, cost calculations, etc.
 - Design, program, and troubleshoot PLC networks
 - Develop specifications for automation system communication integration
- review past system performance and carry out comprehensive system tests, with the aim of locating ways to optimize operations for cost, quality, and efficiency
 - Evaluate components/processes by having test concepts and strategies to make sure that customer requirements are met and fit into the overall mechatronic system life cycle
 - Apply principals of Claim Management, Knowledge Management, and Process Management (e.g. performance measurements)
 - Design and implement system optimization techniques in an existing mechatronic system

Siemens Certified Mechatronic Systems Professionals understand how mechatronic systems function at a high level. In contrast to those certified at Levels 1 and 2, they can understand customer requirements and translate them into the technical requirements of complex mechatronic systems. In addition to designing and managing new systems, they will be able to optimize and improve existing systems using Project and Process Management methods and tools.

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