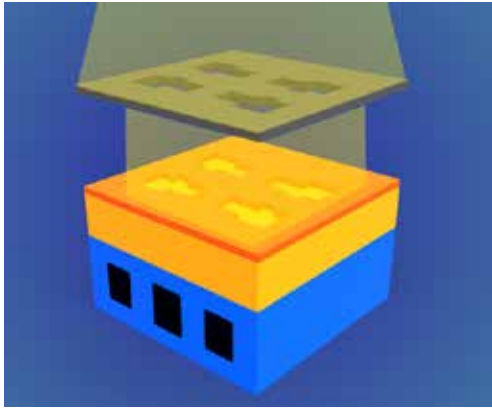


SEMICONDUCTOR MANUFACTURING II

eLearning courses designed to increase productivity and profits



Learning Made Simple, Visual, and Interactive

Semiconductor manufacturing is a complex process involving many steps. The THORS *Semiconductor Manufacturing II* course focuses on the semiconductor patterning process. Information on photoresist application, use of reticles, different lithography techniques, and advanced methods of patterning are covered in this course. To enhance the learning experience, the course contains interactive quizzes that allow learners to test their knowledge and retention of the visually engaging content.

Credit Hours **1.5**

Learning Objectives

- Describe the various steps involved in the pre-patterning process.
- Identify the various types of lithography techniques and their applications.
- Recognize the various types of pattern printing techniques employed in the semiconductor industry.
- Explain the importance of post-exposure processes.
- Define the different advanced methods of patterning and their advantages.

Table of Contents

I. Pre-Patterning Processes

- **Photoresist**
 - Photoresist Chemistry
 - Equipment
 - Photoresist Baking
- **Reticle**

II. Photolithography

- **Lithography Techniques**
 - Optical Lithography
 - Extreme Ultraviolet (EUV) Lithography
 - Deep Ultraviolet (DUV) Lithography
 - Immersion Lithography
 - Emerging Lithography
 - Nanoimprint Lithography
 - Other Emerging Lithography
- **Pattern Printing Techniques**
 - Shadow Printing

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III. Photolithography (continued)

- Projection Printing
 - Stepping
 - Scanning
 - Step and Scan
 - Direct Write
- **Post-Exposure Processes**
 - Post-Exposure Bake (PEB)
 - Development
- **Advanced Methods of Patterning**
 - Double Patterning
 - Litho Etch Litho Etch (LELE)
 - Self-Aligned Double Patterning (SADP)
 - Triple Patterning

