

# Semiconductor Engineering From Design to High Volume Manufacturing

## Course Introduction

- Semiconductor industry basics (semiconductor technology, product design, wafer production (frontend), assembly (backend), test and quality)
- Product development: analog design, digital design, physical layout, design re-use, usage of macros and libraries
- Test development and productive test: test concept, analog-/digital/memory-/RF-/power-test, test time, test cost, difference of test during characterization/verification/qualification and production test (wafer level, package level)
- Production ramp up - from prototype/development to high volume production (production start and volume ramp)
- Safe-launch concepts for production start and volume ramp
- Key performance indicators of semiconductor industry
- Optimization of semiconductor production (of key performance indicators) by optimization of process technology, product design, test flow and production process flow
- How to deal with deviations or disturbances in development and/or production process
- How to manage changes or updates – change management
- Traceability of products throughout the production and logistics process as a major requirement for high quality production

## About Us

Northern Technische Consulting is a company dedicated to support growing needs of talents, critical skills and competence development for high capital-intensive and high value-added technology-related industries primarily in the fields of Semiconductors, Optoelectronics, Solar Photovoltaics, and Advanced Materials, Advanced Electronics and Biomedical Engineering in Kulim Hi-Tech Park and beyond

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# Semiconductor Engineering From Design to High Volume Manufacturing

## Objective

Participants will gain:

- A deeper knowledge about the interactions of semiconductor process technology, product design and semiconductor test
- A deeper knowledge about process stability and detection and effect of variations and deviations / disturbances / how to deal with that and how to manage that
- A basic knowledge about key performance indicators of semiconductor industry

## Target Audience

Engineers working in industry who already have a Bachelor degree in engineering or natural sciences (physics, chemistry) and who are interested in deepening their knowledge in semiconductor product design and production and connected topics. Product Engineers, Yield Engineers, Test Engineers, Quality

Engineers, Development / Design Engineers, and NPI Engineers in the Semiconductor Industry

## Course Methodology

Course is presented in classroom style with small group discussions to encourage higher interaction and better assimilation of knowledge.

## Course Duration

5 days, 9am - 5pm

## Availability

March 2017 onwards



To enquire further, please contact  
[kyong@northern-technische.com](mailto:kyong@northern-technische.com)

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# Semiconductor Engineering From Design to High Volume Manufacturing Course Contents 1/1

## Day1

- Semiconductor industry basics (semiconductor technology, product design, wafer production (frontend), assembly (backend), test, quality)
- Product development: analog design, digital design, physical layout, design re-use, usage of macros and libraries

## Day2

- Test development and productive test: test concept, analog-/digital/memory-/RF-/power-test, test time, test cost, difference of test during characterization/verification/qualification and production test (wafer level, package level)
- Production ramp up - from prototype/development to high volume production (production start and volume ramp)

## Day3

- Safe-launch concepts for production start and volume ramp
- Key performance indicators of semiconductor industry

## Day 4

- Optimization of semiconductor production (of key performance indicators) by optimization of process technology, product design, test flow and production process flow
- How to deal with deviations or disturbances in development and/or production process

## Day 5

- How to manage changes or updates – change management
- Traceability of products throughout the production and logistics process as a major requirement for high quality production
- Wrap-up /Q&A

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