



Imaging Quality Assurance

Modul 11M0674 (Version 7.0) vom 14.12.2015

Module number

11M0674

Level

4

Mission statement

Imaging is a key technology in quality assurance. The knowledge about a large number of options for image capturing, image processing and data reduction to parameters is one major goal of the module. The interpretation of parameters with respect to quality is of highest importance in practice, thus this topic will be covered by lab experiments including self-selected tasks. Several examples from different field of applications of imaging quality assurance will be included in the lecture, the lab experiments and the projects.

Course content

Lecture:

- 1-Introduction to applied image processing
- 2-Sensors and camera systems for machine vision
- 3-Other image-based sensor systems in quality assurance
- 4-Image processing and quality parameters
- 5-Applications from industrial imaging, medical technology, food industry and agriculture

Laboratory:

- 1-Application of image-based systems (such as color cameras, distance cameas, spectral imaging, light curtain imaging, high-speed cameras)
- 2-Software tools, algorithms and statistical methods for image and quality parameter interpretation

Learning outcomes / skills

The students have knowledge about different imaging technologies and image analysis.

The students have knowledge about specific potentials and risks for imaging applications in quality assurance.

The students have practical experiences with different imaging systems, both for data acquisition as well as for image analysis and interpretation.