

## Advanced Theory of Optoelectronics

2 units (selection)

Masao Nagase · PROFESSOR / MATERIAL AND DEVICE SCIENCE, ELECTRICAL AND ELECTRONIC ENGINEERING, SYSTEMS INNOVATION ENGINEERING

**Target** The purpose of this class is to understand principles of new devices based on semiconductor physics

**Outline** Basis and applications of semiconductor devices fabricated using nanotechnology are introduced.

**Style** Lecture

**Keyword** *nanotechnology, semiconductor physics, electron device*

**Goal**

1. understanding of semiconductor physics
2. understanding of nano-fabrication
3. understanding of nano-metrology
4. understanding of principles of nano-devices

**Schedule**

1. Introduction(1 week)
2. Semiconductor physics (3 weeks)
3. Nano-fabrication (3 weeks)
4. Nano-metrology (3 weeks)
5. Nano-devices (4 weeks)
6. Future prospects of nano-electronics (2 weeks)

**Evaluation Criteria** Examinations and portfolios

**Textbook** Printed materials

**Contents** <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216820>

**Student** Able to be taken by only specified class(es)

**Contact**

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**Note** A lecture name will be changed to "Advanced Theory of Nanoelectronics".