ELECTRICAL ENGINEERING DEPARTMENT
FACULTY OF ENGINEERING
ALEXANDRIA UNIVERSITY
EGYPT

EEC482: Optical Communications Systems

Prof. Hossam Shalaby, Email: shalaby@ieee.org

I Outline

- Introduction and Aim of Course.
- Advanced Modulation Techniques.
- Optical Ring Modulators.
- Coherent Detection.
- DSP-Based Optical Transmission.
- Coherent Detection with Receiver Noise.

II Text Books and References

[1] G. P. Agrawal, *Fiber-Optic Communication Systems*, 5th ed. New York: Wiley, 2021.

[2] G. Keiser, *Fiber Optic Communications*, 1st ed. Singapore: Springer, 2021.

[3] R. Hui, *Introduction to Fiber-Optic Communications*, 1st ed. San Diego, CA: Academic Press, 2020.

[4] X. Zhou and C. Xie, *Enabling Technologies for High Spectral-Efficiency Coherent Optical Communication Networks*. New York: Wiley, 2016.

III Handouts and Assignments

- Handouts and assignments can be downloaded from:
  - ☞ http://www.eng.alexu.edu.eg/∼hshalaby/

IV Teaching and Assessments

- Credit hours = 3 h.
- Teaching hours per week: Total = 5 h.
  1. Lectures: 3 h.
     - ☞ Saturday 8:30 AM–10:10 PM, venue K4, every week.
     - ☞ Saturday 10:20–12:00 PM, venue K4, every other week.
  2. Exercises: 1 h.
  3. Laboratories: 1 h.
- Exams and their durations:
  1. Midterm exam: 1 h.
  2. Final exam: 2 h.
- Distribution of a total mark of 100:
  1. Midterm exam: 20%.
  2. Lab assessment and term project: 20%.
  3. Final exam: 60%.