

## CHAPTER OVERVIEW

### Module 3 - Beam Optics

The *Beam Optics* module focuses on the theory and applications of Gaussian beams, which form the foundation for modern laser optics. Students will explore the mathematical description and fundamental features of Gaussian beams, such as beam waist, divergence, and Rayleigh range. The module highlights key properties like phase fronts, intensity profiles, and beam quality factors. Additionally, students will analyze the propagation of Gaussian beams through various optical systems, including lenses and mirrors, using matrix optics. By mastering these concepts, students will gain a solid understanding of beam dynamics, preparing them for advanced studies in optical engineering and photonics.

This module contains 3 classes.

[Class 10 - Gaussian beam- features and mathematical description](#)

[Class 11 - Properties of Gaussian beams](#)

[Class 12 - Propagation of Gaussian beams through optical systems](#)

[Module 3 - Summary](#)

[Multi-choice questions](#)

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