

Bachelor of Science Degree in Optics
 Institute of Optics
 University of Rochester

Major Requirements

- OPT 197 Freshman Laboratory
- OPT 211 Computational Methods in Optics
- OPT 223 Quantum Theory of Optics
- OPT 224 Laser Systems
- OPT 226 Optoelectronics I
- OPT 241 Geometrical Optics
- OPT 242 Aberrations and Testing
- OPT 256 Senior Laboratory
- OPT 261 Interference & Diffraction (with Lab)
- OPT 262 Electromagnetic Theory
- OPT 287 Math Methods for Optics & Physics
- OPT 300 Senior Seminar (2 credits)

Foundation Requirements for Major

- One semester of Chemistry CHM 131 (AP score of 4 or 5 also satisfies)
- Calculus MTH 161 and 162 (AP scores may give credit &/or placement)
- Differential Equations MTH 163 OR
 Linear Algebra w/ Diff. Equations MTH 165 (recommended)
- Multidimensional Analysis MTH 164
- Boundary Value Problems (Fourier Series) MTH 281/ ME 201
- Physics PHY 121 – 123, or 141– 143
- Circuits - (most students take ECE 210, which also fulfills a technical elective)
- 2 Technical Electives - in Optics, engineering, Math, or other area of sciences

Degree Foundation Requirements

- Reason and Writing - CAS 105 (a basic writing course)
- One cluster in humanities
- One cluster in social science

www.optics.rochester.edu

For more information, contact

Betsy Benedict, Undergraduate Program Coordinator

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The 4-year program in Optics is typically completed in the following way:
 (All courses carry 4 credits unless otherwise indicated.)

First Year

Fall

- MTH 161 Calculus I
- CHM 131
- CAS 105 Reason & Writing
- OPT 101 Optics in the Info Age*

Spring

- MTH 162 Calculus II
- PHY 121
- CAS 105 -if closed out Fall sem
- OPT 241 Geometrical Optics
- OPT 197 Freshman Lab (1 cr.)

Second Year

- MTH 164
- PHY 122 (or 142)
- OPT 211 Computational Methods*
- Cluster course

- MTH 163 or 165
- PHY 123 (or 143)
- OPT 261 Interference & Diffraction
- OPT 198 (lab) (1 cr.)
- Cluster course

Third Year

- OPT 224 Laser Systems
- OPT 242 Aberrations & Testing
- MTH 281/ME 201
- Cluster course

- OPT 262 Electromagnetic Theory Circuits*
- OPT 287 Math Methods
- Cluster course

Fourth Year

- OPT 226 Optoelectronics I
- OPT 256 Senior Laboratory
- Cluster course
- Elective (Technical or free)

- OPT 223 Quantum Theory
- OPT 300 (1 credit course)
- Cluster course
- Elective (Technical or free)
- Elective (Technical or free)

Total credits - 132 semester hours

* Freshman with AP credit for MTH 161 & 162 may take OPT 211 with approval of instructor

*Most students elect to take ECE 210, which also fulfills one technical elective.

Loren Cerami -

An alumnae from Prof. Guo's research group
2002 Churchill Scholarship recipient

(2 yrs study at Cambridge University, England)

Kathrine Schultz -

2003 Fulbright Grant recipient (Research in Germany)

Christopher Supranowitz - **2005** Goldwater Scholarship recipient (\$7,500)