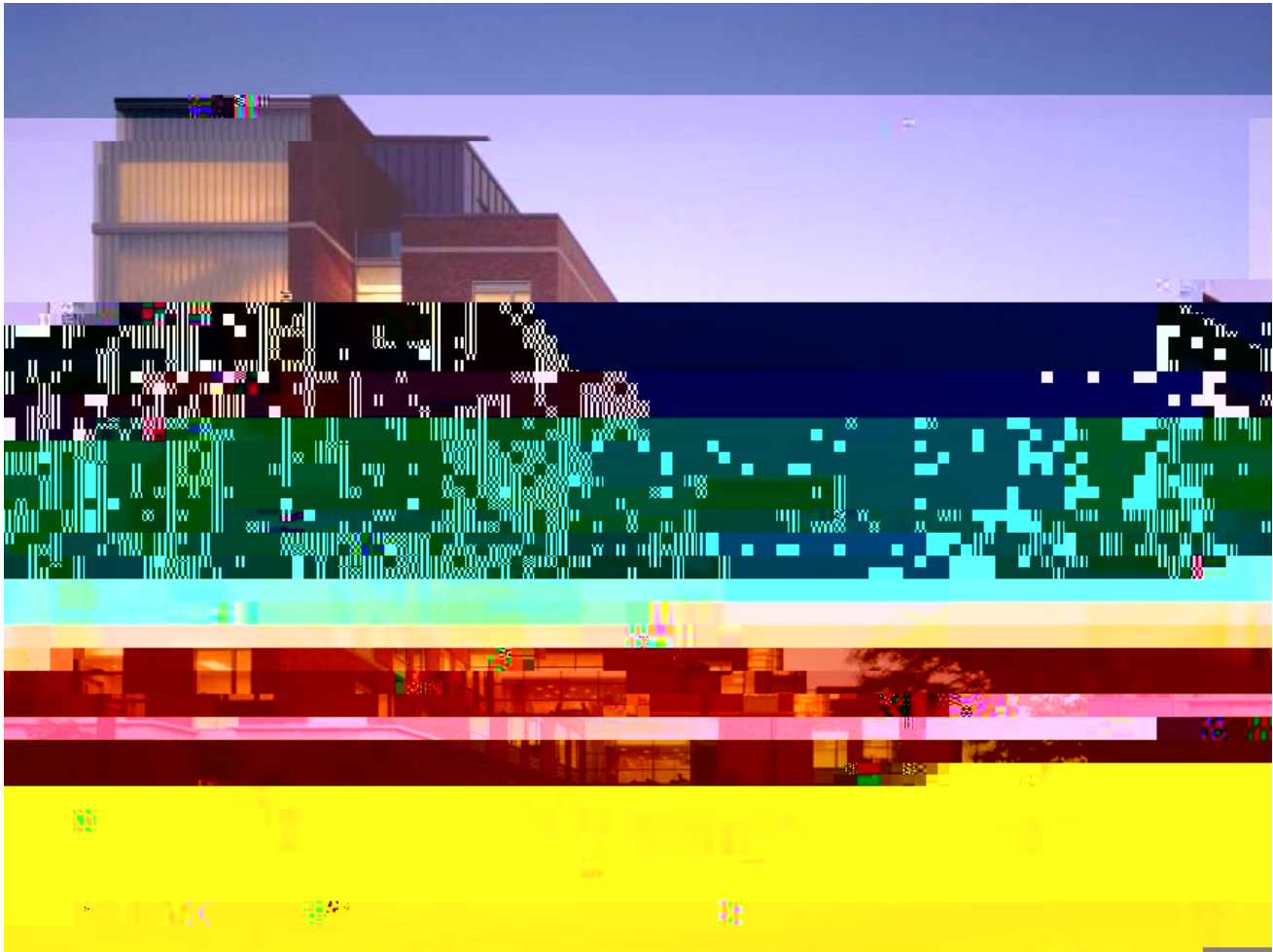


# The Institute of Optics



## Undergraduate Handbook

Fall 2024

## **Introduction**

This Handbook provides a summary of information taken from various University of

**Requirements for Graduation**



## Transferring Courses

Students may wish to transfer in a course from another university to meet a requirement. Those seeking a transfer course must complete a course approval form prior to registering for the course. Students who fail to get the proper permissions will risk not getting the course approved, and will be unable to transfer it.

## Clusters

Students must complete the foundation/distribution requirements by completing one cluster in either the humanities or the social sciences. Students may also complete a minor or additional major in the humanities or the social sciences **in lieu of a cluster**. Those who do this are still required to complete

The Plus One course is required and must be from the humanities or social science division **not** chosen for the cluster.

## Technical Elective “Cluster”

Technical Elective

discussed with the student academic advisor. **These courses need to be STEM classes at or above the 200-level.** A minimum of 12 credits are required. The goal is to choose courses that form a coherent Cluster-like experience for the student. Clusters can be based upon department-suggested tracks or proposed by technical elective requirement is explicitly discussed each semester by the advisor.

offered and to check the course descriptions for pre-requisites. All planned electives must be pre-approved but t

thesis will be presented in a public format prior to graduation, typically around the time of Senior Design Day.

### Non-Core Courses

OPT 145	EAS 141 (or instructor permission)
OPT 146	EAS 141 (or instructor permission)
OPT 147	EAS 141 (or instructor permission)

Students wishing to carry 20 credits must have



## **Undergraduate Committee**

The Undergraduate Committee is responsible for Optics curriculum content and the policies and procedures found in this handbook. The Undergraduate Committee meets approximately once per month during the academic year and is made up of the following:

Prof. Andrew Berger

Goergen 405, 3-4724

[andrew.berger@rochester.edu](mailto:andrew.berger@rochester.edu)

Prof. Julie Bentley

Goergen 507, 3-1687





## **Appendix 2: Core Courses at a Glance**

CHM 131/137*	Chemistry for Engineers (5/4 credits)
OPT 211	MATLAB (2 credits)
OPT 212	MATLAB (2 credits)
OPT /ECE 210	Circuit Analysis for System Thinking (4 credits)
MATH 161**	Calculus I (4 credits)
MATH 162**	Calculus II (4 credits)
MATH 164**	Multidimensional Calculus (4 credits)
MATH 165	Linear Algebra with Differential Equations (4 credits)
OPT 201	Geometrical Optics Laboratory (2 credits)
OPT 202	Physical Optics Laboratory (2 credits)
OPT 203	Instrumentation & Testing Laboratory (2 credits)
OPT 204	Sources and Detectors Laboratory (2 credits)
OPT 223	Quantum Theory of Optics (4 credits)
OPT 225	Sources and Detectors (4 credits)
OPT 241	Geometrical Optics (4 credits)
OPT 242	

**Appendix 3: Undergraduate Committee Petition Form**

UNIVERSITY OF ROCHESTER  
SCHOOL OF ENGINEERING AND APPLIED SCIENCES  
THE INSTITUTE OF OPTICS  
**PETITION FOR OPTICS UNDERGRADUATE COMMITTEE**

DATE: \_\_\_\_\_

NAME: \_\_\_\_\_ ID: \_\_\_\_\_

CLASS \_\_\_\_\_ E-MAIL: \_\_\_\_\_

ADVISOR: \_\_\_\_\_

I ask that the Optics Undergraduate Committee approve the following petition for the reason(s) noted below:

\_\_\_\_\_  
Applicant Signature

\_\_\_\_\_  
Faculty Advisor Signature

\_\_\_\_\_  
Date

APPROVED

DENIED

NEED MORE INFORMATION

Comments on reverse side if needed

**Appendix 4: Academic Honesty Release Form**

I hereby waive my rights of confidentiality in my Board on Academic Honesty records and authorize the Board to report to the person or persons named below any record of violations of the College Academic Honesty Policy for which I have been found responsible.

Completion of this form is voluntary and I understand that this waiver may be revoked at any time by informing the Undergraduate Program Coordinator that I wish to withdraw it.

**\*\*\*Only students with a signed academic honesty release form on file in Wilmot 106 will be eligible for consideration for departmental awards, prizes, and other related honors.**

**Print name of student:** \_\_\_\_\_

**Signature of student:** \_\_\_\_\_

**Date:** \_\_\_\_\_

*Board on Academic Honesty report to be released to:*

**Name:** Dustin R. Newman

**Title:** Undergraduate Program Coordinator

**Department:** The Institute of Optics

**Email:** dustin.newman@rochester.edu

**Phone:** 275-7765

The person or persons to whom this record has been released shall maintain the confidentiality of the information consistent with applicable laws and University policies.

**B.S in OPTICAL ENGINEERING (MATH 14X Track)**

**Sample Schedule**

**130 Credits is required to graduate**

**Fall**

**Credits**

<b>MATH 141</b> (Calculus I)	4
<b>CHEM 137</b> (Chem. for Engineers)	4
<b>WRTG 105*</b> or cluster course	4
<b>OPT 101</b> (Recommended)	4
Total Credits	<b>16</b>

**Spring**

**Credits**

<b>MATH 142</b> (Calculus II)	4
<b>PHYS 113</b> (General Physics I)	4
<b>WRTG 105*</b> or cluster course	4
<b>OPT 211</b> (	

**Summer**

**Credits**

<b>MATH 143</b> (Calculus III)	4
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**Fall**

**Credits**

<b>OPT 241</b> (Geometrical Optics)	4
<b>OPT 201</b> (Geometrical Optics Lab)	2
<b>MATH 164</b> (Multidimensional Calculus)	4
<b>PHYS 122</b> (Electricity and Magnetism)	4
Choose: cluster/tech/free/plus one	4
Total Credits	<b>18</b>

**Fall**

**Credits**

<b>OPT 242</b> (Aberrations and Testing)	4
<b>OPT 203</b> (Aberrations and Testing Lab)	2
<b>OPT 262</b> (Electromagnetic Theory)	4
<b>MATH 165</b> (Linear Algebra w/ Diff. Eq.)	4
<b>OPT 212</b> (MATLAB)	2
Total Credits	<b>16</b>

**Fall**

**Credits**

<b>OPT 310/320</b> (Senior Design/Project)	4
Choose: cluster/tech/free/plus one	4
Choose: cluster/tech/free/plus one	4
Choose: cluster/tech/free/plus one	4
Total Credits	<b>16</b>

**B.S in OPTICAL ENGINEERING (MATH 16X Track)**

**Sample Schedule**

**130 Credits is required to graduate**

**Fall**

**Credits**