

# OPTICAL ENGINEERING

Eligibility: Students in any degree program, except Optical Engineering.

## Requirements

| Code                         | Title  | Hours     |
|------------------------------|--|-----------|
| <b>Required Courses</b>      |  |           |
| OE 280                       | Geometrical Optics                           | 4         |
| PH 292                       | Physical Optics                              | 4         |
| OE 295                       | Photonic Devices and Systems                 | 4         |
| Select two of the following: |  | 8         |
| OE 360                       | Optical Materials                            |           |
| OE 392                       | Linear Optical Systems                       |           |
| OE 393                       | Fiber Optics and Applications                |           |
| OE 395                       | Optomechanics & Optical Engineering Lab      |           |
| OE 434                       | Non-Imaging Optics                           |           |
| OE 435                       | Biomedical Optics                            |           |
| OE 437                       | Introduction to Image Processing             |           |
| OE 450                       | Laser Systems & Applications                 |           |
| OE 470                       | Special Topics in Optical Engineering        |           |
| OE 480                       | Optical System Design                        |           |
| OE 493                       | Fundamentals of Optical Fiber Communications |           |
| OE 495                       | Optical Metrology                            |           |
| <b>Total Hours</b>           |  | <b>20</b> |

Also see Certificate Program in Semiconductor Materials and Devices  
(<https://catalog.rose-hulman.edu/catalog/minors-certificates/semiconductor-mtl-dev-cert-certificate/>)

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|---|--|-----------|
| <b>Required Courses</b>   |  |           |
| OE 280  | Geometrical Optics                           | 4         |
| PH 292  | Physical Optics                              | 4         |
| OE 295  | Photonic Devices and Systems                 | 4         |
| Select at least two courses from one of the areas listed below: |  | 8         |
| Lens Design Area:   |  |           |
| OE 360  | Optical Materials                            |           |
| OE 415  | Optical Engineering Design I                 |           |
| OE 480  | Optical System Design                        |           |
| OE 490  | Directed Research (4 Credits Only)           |           |
| Photonics/Electro-optics Area:                                  |  |           |
| OE 360  | Optical Materials                            |           |
| OE 415  | Optical Engineering Design I                 |           |
| OE 450  | Laser Systems & Applications                 |           |
| OE 490  | Directed Research (4 Credits Only)           |           |
| OE 493  | Fundamentals of Optical Fiber Communications |           |
| Image Processing Area:  |  |           |
| OE 360  | Optical Materials                            |           |
| OE 415  | Optical Engineering Design I                 |           |
| OE 490  | Directed Research                            |           |
| OE 437/<br>ECE 480  | Introduction to Image Processing             |           |
| <b>Total Hours</b>  |  | <b>20</b> |