### Bachelor of Science in Optical Sciences and Engineering†

**College of Optical Sciences**

**Mapping of Courses and Activities to Program Outcomes**

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<tr>
<th>Program Outcomes</th>
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<tbody>
<tr>
<td>H = High</td>
<td>M = Medium</td>
<td>L = Low</td>
<td>▫ = External to OSE</td>
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<tr>
<td>Have a good understanding of the basic physics and mathematics underlying optical phenomena and optical systems</td>
<td>Are able to apply their understanding of physics and mathematics to solve technical and engineering problems</td>
<td>Are able to effectively use optical components, optical and electronic instruments, and computers to perform experiments and do testing in an optics laboratory</td>
<td>Are able to work effectively in teams to solve engineering and design problems</td>
<td>Are able to design optical systems and components as needed in their professional careers</td>
<td>Are able to effectively communicate with others both orally and in writing</td>
<td>Understand their professional and ethical responsibilities as engineering or scientific professionals</td>
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| Curriculum                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| OPTI 201L                                                                   | L                                                                                  | H                                                                                  | H                                                                                  | H                                                                                  | L                                                                                  | M                                                                                  |
| OPTI 201R                                                                   | H                                                                                  | H                                                                                  |                                                                                    |                                                                                    |                                                                                    |                                                                                    |
| OPTI 202L                                                                   | L                                                                                  | H                                                                                  | H                                                                                  | H                                                                                  | H                                                                                  | M                                                                                  |
| OPTI 202R                                                                   | M                                                                                  | H                                                                                  | M                                                                                  | H                                                                                  | M                                                                                  | M                                                                                  |
| OPTI 240                                                                    | H                                                                                  | H                                                                                  | L                                                                                  | M                                                                                  | M                                                                                  | M                                                                                  |
| OPTI 280                                                                    | L                                                                                  | H                                                                                  | M                                                                                  | L                                                                                  | L                                                                                  | L                                                                                  |
| OPTI 310                                                                    | H                                                                                  | M                                                                                  | L                                                                                  | L                                                                                  | L                                                                                  | L                                                                                  |
| OPTI 330                                                                    | H                                                                                  | H                                                                                  | L                                                                                  |                                                                                    |                                                                                    | L                                                                                  |
| OPTI 340                                                                    | H                                                                                  | M                                                                                  | L                                                                                  | L                                                                                  | H                                                                                  | H                                                                                  |
| OPTI 370                                                                    | H                                                                                  | H                                                                                  | M                                                                                  | L                                                                                  | M                                                                                  | L                                                                                  |
| OPTI 380A                                                                   | H                                                                                  | M                                                                                  | H                                                                                  | H                                                                                  | M                                                                                  | H                                                                                  |
| OPTI 380B                                                                   | L                                                                                  | H                                                                                  | H                                                                                  | H                                                                                  | L                                                                                  | H                                                                                  |
| OPTI 406                                                                    | H                                                                                  | H                                                                                  | M                                                                                  | M                                                                                  | L                                                                                  |                                                                                    |
| OPTI 415                                                                    | M                                                                                  | L                                                                                  | M                                                                                  | M                                                                                  | H                                                                                  |                                                                                    |
| OPTI 421                                                                    | M                                                                                  | H                                                                                  | M                                                                                  | H                                                                                  | H                                                                                  | H                                                                                  |
| OPTI 430                                                                    | H                                                                                  | H                                                                                  | M                                                                                  | M                                                                                  | H                                                                                  | L                                                                                  |
| OPTI 471A                                                                   | H                                                                                  | H                                                                                  | H                                                                                  | H                                                                                  | H                                                                                  | L                                                                                  |
| OPTI 471B                                                                   | L                                                                                  | L                                                                                  | H                                                                                  | M                                                                                  | H                                                                                  | H                                                                                  |

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<th>Curriculum</th>
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<tr>
<td>Have a good understanding of the basic physics and mathematics underlying optical phenomena and optical systems</td>
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<td>(ABET: A,E,H,K)</td>
<td>ECE 207/220</td>
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<td>Are able to apply their understanding of physics and mathematics to solve technical and engineering problems</td>
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<td>(ABET: A,E,I,K)</td>
<td>ENGR 102</td>
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<td>Are able to effectively use optical components, optical and electronic instruments, and computers to perform experiments and do testing in an optics laboratory</td>
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<td>(ABET: B,C,E,J,K)</td>
<td>ENGR 498 A &amp; B</td>
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<td>Are able to work effectively in teams to solve engineering and design problems</td>
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<td>(ABET: D)</td>
<td>MATH 124/125</td>
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<td>Are able to design optical systems and components as needed in their professional careers</td>
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<td>(ABET: B,C,D,E,J,K)</td>
<td>MATH 129</td>
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<td>Are able to effectively communicate with others both orally and in writing</td>
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<td>(ABET: G)</td>
<td>MATH 223</td>
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<td>Understand their professional and ethical responsibilities as engineering or scientific professionals</td>
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<td>(ABET: F,H,I)</td>
<td>MATH 254</td>
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<td>CHEM 151</td>
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