

## Bachelor of Science in Optical Sciences and Engineering<sup>†</sup>

### College of Optical Sciences

#### Mapping of Program Outcomes to ABET Criterion 3 (outcomes a-k) and ABET Criterion 9 (Program Criteria)

Program Outcomes							
H = High M = Medium L = Low	Have a good understanding of the basic physics and mathematics underlying optical phenomena and optical systems	Are able to apply their understanding of physics and mathematics to solve technical and engineering problems	Are able to effectively use optical components, optical & electronic instruments, and computers to perform experiments and do testing in an optics laboratory	Are able to work effectively in teams to solve engineering and design problems	Are able to design optical systems and components as needed in their professional careers	Are able to effectively communicate with others both orally and in writing	Understand their professional and ethical responsibilities as engineering or scientific professionals
<b>ABET Criterion 3 (outcomes a-k)</b>							
(a) Apply knowledge of mathematics, science, and engineering	✓	✓					
(b) Design and conduct experiments, as well as analyze and interpret data			✓		✓		
(c) Design a system, component, or process to meet desired needs within realistic constraints, e.g. economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability			✓		✓		
(d) Function on multi-disciplinary teams				✓	✓		

[www.engineering.arizona.edu](http://www.engineering.arizona.edu)

<sup>†</sup> Accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>

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<b>ABET Criterion 3 (outcomes a-k)</b>							
(e) Identify, formulate, and solve engineering problems	✓	✓	✓		✓		
(f) Understand professional and ethical responsibility							✓
(g) Communicate effectively						✓	
(h) Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.	✓						✓
(i) Recognition of the need for, and an ability to engage in, life-long learning		✓			✓		✓
(j) Knowledge of contemporary issues			✓		✓		
(k) Use the techniques, skills, and modern engineering tools necessary for engineering practice	✓	✓	✓		✓		