

### Mapping of Required ESE Courses to Applicable ABET Student Outcomes

Energy Systems Engineering (ESE)	Student Outcomes for All ABET-Accredited Engineering Programs (a-k)										
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
<b>Required ESE Course at OSU-Cascades</b>	<b>"X" = course includes Learning Outcome(s) that directly support the associated Student Outcome</b>										
IE 415 - Simulation & Decision Support	X	X	X	X	X		X				X
IE 425 - Industrial Systems Optimization	X				X						X
IE/ME 497/98 (ESE 497/98) - MIME Capstone Design			X	X		X	X				
ME 311 - Intro. Thermal-Fluid Sciences					X						
ME 312 - Thermodynamics			X		X						
ME 331 - Introductory Fluid Mechanics		X			X						
ME 332 - Heat Transfer			X		X						
ESE 355 - Energy Regulation		X		X	X	X	X		X	X	X
ESE 360 - Energy Consumption Analysis					X			X	X		
ESE 450 - Energy Generation Systems			X		X	X		X	X	X	
ESE 470 - Energy Distribution Systems	X		X		X			X		X	X
ESE 471 - Energy Storage Systems			X		X			X		X	
<b>Total</b>	<b>3</b>	<b>3</b>	<b>7</b>	<b>3</b>	<b>11</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>4</b>