

## Bachelor of Science in Electrical Engineering **Photonics Concentration**

*This suggested plan applies to students entering in Academic Year 2017-2018 who are ready for calculus.*

<b>Semester 1</b>			<b>Semester 2</b>		
MA1160 <sup>1</sup>	Calculus with Technology 1	4	MA2160	Calculus with Technology 2	4
ENG1101	Engineering Analysis	3	ENG1102	Engineering Modeling & Design	3
PH1100	Physics Lab 1	1	PH2100	Univ. Physics I Mechanics	3
CH1150&1151	Univ. Chemistry I & Lab I	4	PH1200	Univ. Physics II Lab	1
CH1153	Prob. Solv. Chem. I :optional	1	EE1110	Essential Math for EE's	1
UN1015	Composition	3	EE1111	Intro. to Elec. & Comp. Engg.	1
			UN1025	Global Issues	3
<b>Total</b>		<b>15/16</b>	<b>Total</b>		<b>16</b>
<b>Semester 3</b>			<b>Semester 4</b>		
MA2321 <sup>2</sup>	Linear Algebra	2	EE2112	Electric Circuits II	4
MA3521 <sup>2</sup>	Differential Equations	2	MA3160	Multi-variable Calculus	4
EE 2111	Electric Circuits I	3	EE 2174	Digital Logic and Lab	4
CS 1111	Intro to Programming in C/C++	3		HASS HU/FA elective <sup>7</sup>	3
PH2200	Univ. Physics 2-Elec&Magnetism	3		Soc Resp/Ethical Reasoning crse <sup>7</sup>	3
	Critical/Creative Thinking crse <sup>7</sup>	3	<b>Total</b>		<b>18</b>
<b>Total</b>		<b>16</b>			
<b>Semester 5</b>			<b>Semester 6</b>		
EE3131	Electronics & Lab	4	EE3901	Design Fundamentals	2
EE3140	Electromagnetics	3	EE3180	Probability – Signal Analysis	3
EE3160	Signals and Systems	3	EE3190	Optical Sensing & Imaging	3
EE3090	Intro Geometrical & Wave Optics	3	EE3261	Control Systems	3
	2 <sup>nd</sup> Comp/Comm. course <sup>7</sup>	3		SELECT approved elective <sup>4a</sup>	3
<b>Total</b>		<b>16</b>		HASS EC/PSY/SS elective <sup>7</sup>	3
			<b>Total</b>		<b>17</b>
<b>Semester 7</b>			<b>Semester 8</b>		
EE4901 <sup>5</sup>	ECE Design Project 1 (part 1)	2	EE4910 <sup>5</sup>	ECE Design Project 2 (part 2)	2
EE3290	Phot. Materials, Devices & Appls	4	EE4490	Laser Systems and Applications	4
	Photonics elective <sup>3,8</sup>	3		EE electives <sup>6,8</sup>	3
EE3250	Communication Theory	3		Photonics elective <sup>3</sup>	3
	HASS elective <sup>7</sup>	3		Approved electives <sup>4b</sup>	3
<b>Total</b>		<b>15</b>	<b>Total</b>		<b>15</b>
			<b>Total</b>		<b>128 Credits</b>

Students must add 3 units of co-curricular activities (Physical Education), usually taken in six .5 units.

Follow pre-requisites and semester offerings. This is a 'suggested' plan which can vary by individual student; shows best route through system to avoid conflicts. Students who begin in a pre-calculus course will take ENG1001 and ENG1100 in place of ENG1101 in first year.

1. MA1160 may be replaced by MA1161

2. MA2320 and MA3520 may replace MA2321 and MA3521

3. Photonics Electives: 6 credits from approved list of Photonics Concentration electives.

4. SELECT Approved Elective: 3 credits (4a) from a "SELECT approved list", topics recommended by industry professionals; plus 3 cr. (4b) from Approved electives list: CH1153 may apply. Reduce 4b by 2 cr. w/ enterprise design opt.

5. Approved Engineering Design courses or Enterprise courses may replace EE4901, and EE4910. See advisor for details

6. EE Electives: 3 credits EE course not listed here and not EE3805, EE4805, EE4901, EE4910.

7. HASS = Humanities, Arts and Social Sciences. Follow university requirements for general distribution electives.

8. Up to six credits "EE" level 4000+ may be double-counted toward an ECE accelerated master's program.