



## Computer Science Program: Software Engineering Option

### Curriculum Requirements

### Catalog Year 2020-21

#### FRESHMAN YEAR

<u>First Semester</u>			<u>R</u>	<u>L</u>	<u>C</u>	<u>Second Semester</u>			<u>R</u>	<u>L</u>	<u>C</u>
ENL	101	Critical Writing & Reading I	3	0	3	ENL	102	Critical Writing & Reading II	3	0	3
CIS	180	Object-Oriented Programming I	3	2	4	CIS	181	Object-Oriented Programming II	3	2	4
EGR	111	Intro to Engineering & Computing	3	2	3			University Studies <sup>1</sup>	3	0	3
MTH	153	Calc for Appl Science Engineering I	4	0	4	MTH	154	Calc for Appl Science Engineering II	4	0	4
<b>14</b>						<b>14</b>					

#### SOPHOMORE YEAR

<u>First Semester</u>			<u>R</u>	<u>L</u>	<u>C</u>	<u>Second Semester</u>			<u>R</u>	<u>L</u>	<u>C</u>
MTH	181	Discrete Structures I	3	0	3	MTH	182	Discrete Structures II	3	0	3
CIS	190	Intro. To Procedural Programming	3	2	4	CIS	264	Software Qual. Assurance & Test	3	0	3
CIS	272	Introduction to Computing Systems	3	2	4	CIS	280	Software Specification & Design	3	2	4
		Laboratory Science I <sup>2,4</sup>	3	3	4			Laboratory Science II <sup>3,4</sup>	3	3	4
								Free Elective			1
<b>15</b>						<b>15</b>					

#### JUNIOR YEAR

<u>First Semester</u>			<u>R</u>	<u>L</u>	<u>C</u>	<u>Second Semester</u>			<u>R</u>	<u>L</u>	<u>C</u>
CIS	360	Algorithms & Data Structure	3	2	4	CIS	340	Large Software Systems	3	0	3
CIS	440	Software Process and Proj. Mgmt	3	0	3	CIS	362	Empirical Methods for CS	3	0	3
CIS	381	Social & Ethical Aspects of CS <sup>4</sup>	3	0	3			Science Elective <sup>5,6</sup>	3	0	3
ENL	266	Technical Communications	3	0	3			University Studies <sup>1</sup>	3	0	3
MTH	331	Probability	3	0	3			University Studies <sup>1</sup>	3	0	3
<b>16</b>						<b>15</b>					

#### SENIOR YEAR

<u>First Semester</u>			<u>R</u>	<u>L</u>	<u>C</u>	<u>Second Semester</u>			<u>R</u>	<u>L</u>	<u>C</u>
CIS	498	Software Engineering Project I	3	2	4	CIS	499	Software Engineering Project II	2	2	3
CIS	461	Formal Methods in Soft Eng.	3	0	3	CIS		SE Technical Elective <sup>7</sup>	3	0	3
CIS		SE Technical Elective <sup>7</sup>	3	0	3	CIS		SE Technical Elective <sup>7</sup>	3	0	3
CIS		SE Technical Elective <sup>7</sup>	3	0	3			University Studies <sup>1</sup>	3	0	3
		University Studies <sup>1</sup>	3	0	3			Free Elective	3	0	3
<b>16</b>						<b>15</b>					

**Total Credits = 120**

R = Recitation &amp; Lecture (hours) L = Laboratory (hours)

C = Number of Credits

<sup>1</sup>See University Studies requirements for Clusters 3 and 4.<sup>2</sup>Must be either PHY 113 or CHM 151/161 or BIO 121/131.<sup>3</sup>Must be a continuation of Laboratory Science I (PHY 114 or CHM 152/162 or BIO 122/132).<sup>4</sup>Meets the University Studies Cluster 2B requirement.<sup>5</sup>Ideally two of these courses should also meet University Studies Cluster 2A and 2B.<sup>6</sup>Any course in BIO, CHM, MAR, MLS, or PHY.<sup>7</sup>Must be taken from approved list of courses.