<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1330</td>
<td>Pre-Calculus I</td>
<td>3.0</td>
<td>MATH 0110</td>
<td></td>
</tr>
<tr>
<td>MATH 1340</td>
<td>Pre-Calculus II</td>
<td>3.0</td>
<td>MATH 1330</td>
<td></td>
</tr>
<tr>
<td>MATH 1350</td>
<td>Calculus I</td>
<td>4.0</td>
<td>MATH 1340</td>
<td></td>
</tr>
<tr>
<td>MATH 1360</td>
<td>Calculus II</td>
<td>4.0</td>
<td>MATH 1350</td>
<td></td>
</tr>
</tbody>
</table>

**Basic Sciences Component**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCIE 1110</td>
<td>General Biology</td>
<td>4.0</td>
<td></td>
<td>SCIE 1111</td>
</tr>
<tr>
<td>SCIE 1111</td>
<td>General Biology Lab.</td>
<td>0.0</td>
<td></td>
<td>SCIE 1110</td>
</tr>
<tr>
<td>SCIE 1430</td>
<td>Physics I</td>
<td>4.0</td>
<td>MATH 1350</td>
<td>SCIE 1431</td>
</tr>
<tr>
<td>SCIE 1431</td>
<td>Physics I Laboratory</td>
<td>1.0</td>
<td>MATH 1350</td>
<td>SCIE 1430</td>
</tr>
<tr>
<td>SCIE 1440</td>
<td>Physics II</td>
<td>4.0</td>
<td>MATH 1360, SCIE 1430,</td>
<td>SCIE 1441</td>
</tr>
<tr>
<td>SCIE 1441</td>
<td>Physics II Laboratory</td>
<td>1.0</td>
<td>MATH 1360, SCIE 1430,</td>
<td>SCIE 1440</td>
</tr>
</tbody>
</table>

**General Engineering Component**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGI 2270</td>
<td>Engineering Probability &amp; Statistics</td>
<td>3.0</td>
<td>MATH 1360</td>
<td></td>
</tr>
</tbody>
</table>

**Socio-Humanistic Component**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 1010</td>
<td>Linguistic Analysis of Literary Genres</td>
<td>3.0</td>
<td>SPAN 0110</td>
<td></td>
</tr>
<tr>
<td>SPAN 2020</td>
<td>Business Spanish</td>
<td>3.0</td>
<td>SPAN 1010</td>
<td></td>
</tr>
<tr>
<td>ENGL 1010</td>
<td>The Study of the Essay as a Literary Genre</td>
<td>3.0</td>
<td>ENGL 0110</td>
<td></td>
</tr>
<tr>
<td>ENGL 2020</td>
<td>Business English and Communication</td>
<td>3.0</td>
<td>ENGL 1010</td>
<td></td>
</tr>
<tr>
<td>SOHU 2010</td>
<td>Socio-Humanistic Studies</td>
<td>3.0</td>
<td>SOHU 2010</td>
<td></td>
</tr>
<tr>
<td>SOHU 2040</td>
<td>Ethics, Global and Contemporary Issues</td>
<td>3.0</td>
<td>SOHU 2010</td>
<td></td>
</tr>
</tbody>
</table>

**CECS Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CECS 2004</td>
<td>Discrete Structures</td>
<td>3.0</td>
<td>MATH 1330</td>
<td>MATH 1340</td>
</tr>
<tr>
<td>CECS 2200</td>
<td>Computer Programming Fundamentals</td>
<td>3.0</td>
<td>MATH 0110</td>
<td></td>
</tr>
<tr>
<td>CECS 2202</td>
<td>Computer Programming I</td>
<td>3.0</td>
<td>CECS 2200</td>
<td>CECS 2203</td>
</tr>
<tr>
<td>CECS 2203</td>
<td>Computer Programming I Laboratory</td>
<td>1.0</td>
<td>CECS 2200</td>
<td>CECS 2202</td>
</tr>
<tr>
<td>CECS 2222</td>
<td>Computer Programming II</td>
<td>3.0</td>
<td>CECS 2202</td>
<td>CECS 2223</td>
</tr>
<tr>
<td>CECS 2223</td>
<td>Computer Programming II Laboratory</td>
<td>1.0</td>
<td>CECS 2202</td>
<td>CECS 2222</td>
</tr>
<tr>
<td>CECS 3200</td>
<td>Assembly Language Programming</td>
<td>3.0</td>
<td>CECS 2202, COE 2300 or CS 2302 for CS Majors</td>
<td></td>
</tr>
<tr>
<td>CECS 3202</td>
<td>Visual-Oriented Programming</td>
<td>3.0</td>
<td>CECS 2202</td>
<td></td>
</tr>
<tr>
<td>CECS 3210</td>
<td>Advanced Programming</td>
<td>3.0</td>
<td>CECS 2222</td>
<td></td>
</tr>
<tr>
<td>CECS 3212</td>
<td>Data Structures</td>
<td>3.0</td>
<td>CECS 2004, CECS 2222</td>
<td></td>
</tr>
<tr>
<td>CECS 3214</td>
<td>Internet Programming I</td>
<td>3.0</td>
<td>CECS 2222</td>
<td></td>
</tr>
<tr>
<td>CECS 3220</td>
<td>Human-Computer Interaction</td>
<td>3.0</td>
<td>CECS 2222</td>
<td></td>
</tr>
<tr>
<td>CECS 3234</td>
<td>UNIX Operating System</td>
<td>3.0</td>
<td>CECS 2222</td>
<td></td>
</tr>
<tr>
<td>CECS 3302</td>
<td>Data Communications</td>
<td>3.0</td>
<td>COE 2300 or CS 2302 for CS Majors</td>
<td></td>
</tr>
<tr>
<td>CECS 4200</td>
<td>Programming Languages</td>
<td>3.0</td>
<td>CECS 3212</td>
<td></td>
</tr>
</tbody>
</table>

(Note: Contents on this document may be subject to revision without previous notice). (Revised on 4/25/2014)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CECS 4202</td>
<td>Database Systems</td>
<td>3.0</td>
<td>CECS 2004, CECS 2222</td>
<td></td>
</tr>
<tr>
<td>CECS 4204</td>
<td>Software Engineering</td>
<td>3.0</td>
<td>CECS 4202</td>
<td></td>
</tr>
<tr>
<td>CECS 4206</td>
<td>Design and Analysis of Algorithms</td>
<td>3.0</td>
<td>CECS 3212</td>
<td></td>
</tr>
<tr>
<td>CECS 4208</td>
<td>Computer Forensics</td>
<td>3.0</td>
<td>CECS 3212</td>
<td></td>
</tr>
<tr>
<td>CECS 4210</td>
<td>Ethical Hacking</td>
<td>3.0</td>
<td>CECS 3212</td>
<td></td>
</tr>
<tr>
<td>CECS 4212</td>
<td>Artificial Intelligence (AI)</td>
<td>3.0</td>
<td>ENGL 2270, CECS 3212</td>
<td></td>
</tr>
<tr>
<td>CECS 4214</td>
<td>Network Security</td>
<td>3.0</td>
<td>CECS 3212</td>
<td></td>
</tr>
<tr>
<td>CECS 4216</td>
<td>Reverse Engineering</td>
<td>3.0</td>
<td>CECS 3212</td>
<td></td>
</tr>
<tr>
<td>CECS 4218</td>
<td>Introduction to Game Design</td>
<td>3.0</td>
<td>CECS 2200</td>
<td></td>
</tr>
<tr>
<td>CECS 4220</td>
<td>E-Commerce</td>
<td>3.0</td>
<td>CECS 3212</td>
<td></td>
</tr>
<tr>
<td>CECS 4222</td>
<td>Game Programming Fundamentals</td>
<td>3.0</td>
<td>CECS 2222, CECS 4218</td>
<td></td>
</tr>
<tr>
<td>CECS 4226</td>
<td>Computer Graphics</td>
<td>3.0</td>
<td>CECS 2222</td>
<td></td>
</tr>
<tr>
<td>CECS 4228</td>
<td>Computational Theory</td>
<td>3.0</td>
<td>CECS 3212</td>
<td></td>
</tr>
<tr>
<td>CECS 4230</td>
<td>Operating Systems</td>
<td>3.0</td>
<td>COE 4320 or CS 3300 for CS Majors</td>
<td></td>
</tr>
<tr>
<td>CECS 4234</td>
<td>UNIX Administration</td>
<td>3.0</td>
<td>CECS 3234</td>
<td></td>
</tr>
<tr>
<td>CECS 4256</td>
<td>Internet Programming II</td>
<td>3.0</td>
<td>CECS 3214, CECS 4202</td>
<td></td>
</tr>
</tbody>
</table>

COE Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE 4330</td>
<td>Computer Networks</td>
<td>3.0</td>
<td>CECS 4230, COE 4331</td>
<td></td>
</tr>
<tr>
<td>COE 4331</td>
<td>Computer Networks Laboratory</td>
<td>1.0</td>
<td>CECS 4230, COE 4330</td>
<td></td>
</tr>
</tbody>
</table>

CS Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 2302</td>
<td>Digital Logic for Computer Science Majors</td>
<td>3.0</td>
<td>CECS 2200</td>
<td></td>
</tr>
<tr>
<td>CS 3010</td>
<td>Numerical Analysis for CS Majors</td>
<td>3.0</td>
<td>CECS 2202, MATH 1360</td>
<td>SCIE 1440</td>
</tr>
<tr>
<td>CS 3300</td>
<td>Computer Architecture for CS Majors</td>
<td>3.0</td>
<td>CECS 3200</td>
<td></td>
</tr>
<tr>
<td>CS 4002</td>
<td>Computer Science Project I</td>
<td>3.0</td>
<td>All Computer Science core courses before 3rd year. Senior standing. Departmental permit.</td>
<td></td>
</tr>
<tr>
<td>CS 4022</td>
<td>Computer Science Project II</td>
<td>3.0</td>
<td>CS 4002</td>
<td></td>
</tr>
<tr>
<td>CS 4902</td>
<td>Undergraduate Research in Computer Science</td>
<td>3.0</td>
<td>3rd Year CS Student 3.00 or Higher GPA. Departmental Permit.</td>
<td></td>
</tr>
<tr>
<td>CS 4990</td>
<td>Special Topics in Computer Science</td>
<td>3.0</td>
<td>Depart. Permit According To Topics Addressed.</td>
<td></td>
</tr>
</tbody>
</table>

Management Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 1010</td>
<td>Introduction to Management</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MGMT 4660</td>
<td>Introduction to Entrepreneurship</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Professional Practice

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Crs.</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOP 3010</td>
<td>Professional Practice</td>
<td>3.0</td>
<td>Department Permit</td>
<td></td>
</tr>
</tbody>
</table>

Free Electives

Note: CS students must select 6 credit-hours in Free Electives

(Note: Contents on this document may be subject to revision without previous notice).  (Revised on 4/25/2014)