

	Minimum Hrs Required	Course(s) Fulfilled
REQUIRED COURSEWORK: 18HRS TOTAL		
Two Core Courses:	6	
C S 303E: Elements of Computer Programming		
C S 313E: Elements of Software Design		
Four of the Following Upper Division Courses:	12	
C S 323E: Elements of Scientific Computing		<i>*Multiple topics of C S 329E may count toward the 12 additional hour requirement as long as topics vary</i>
C S 324E: Elements of Graphics and Visualization		<i>*With the approval of the certificate program faculty committee, other appropriate upper division courses may be counted toward the elective requirement.</i>
C S 326E: Elements of Networking		
C S 327E: Elements of Databases		
C S 329E: Advanced Topics in Elements of Computing		<i>*Please visit our website for a list of pre-approved substitute courses: http://www.cs.utexas.edu/undergraduate-program/academics/elements-computing</i>
<ul style="list-style-type: none"> • Elements of Data Visualization • Elements of Mobile Computing • Elements of Programming Languages • Elements of Software Engineering** • Elements of Web Programming • Elements of Data Analytics • Elements of Game Development 		<i>*No more than 2 substitutions are allowed to count toward the 18hr Elements of Computing Certificate</i>
C S 330E: Elements of Software Engineering I		<i>**C S 329E: Elements of Software Engineering has been renamed and renumbered to C S 330E: Elements of Software Engineering I; students may not use both courses to count towards the certificate.</i>
C S 331E: Elements of Software Engineering II		

POLICIES & PROCEDURES

- Application for admission required
- Total of 18 hours required; 12 of which must be upper division
- Students may only register for up to 3 upper division C S Elements courses in a given semester
- All coursework must be completed with a grade of C- or higher
- Please visit the certificate website for additional information: <http://www.cs.utexas.edu/undergraduate-program/academics/elements-computing>