**Stanford University • School of Engineering**  
**Computer Science**  
**Information Track**  
**2020-2021 Program Sheet**

*Final version of program sheet due to the department no later than one month prior to the last quarter of senior year.*

*Follow all requirements as stated for the year of the program sheet used.*

**Name:**  
**SU ID #:**  
**Phone:**  
**Email:**  
**Today's Date:**  
**Month/Yr B.S. expected:**

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### Mathematics and Science Requirement (Delete courses and units not taken)

<table>
<thead>
<tr>
<th>Dept</th>
<th>Course</th>
<th>Title</th>
<th>Transfer/AP Approval by SoE</th>
<th>Unit</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>✓ if Transfer</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mathematics (26 units minimum)</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>MATH</td>
<td>19</td>
<td>Calculus (see note 1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS</td>
<td>103</td>
<td>Mathematical Foundations of Computing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS</td>
<td>109</td>
<td>Introduction to Probability for Computer Scientists</td>
<td></td>
<td></td>
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<tr>
<td>Plus two electives (see note 2)</td>
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</tbody>
</table>

**Mathematics Unit Total (26 units minimum)**

### Science (11 units minimum)

<table>
<thead>
<tr>
<th>Dept</th>
<th>Course</th>
<th>Title</th>
<th>Transfer/AP Approval by SoE</th>
<th>Unit</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>✓ if Transfer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS</td>
<td>41 or 41E</td>
<td>Mechanics (or PHYS 21 or 61)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS</td>
<td>43</td>
<td>Electricity and Magnetism (or PHYS 23 or 63)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective (see note 3)</td>
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</tbody>
</table>

**Science Unit Total (11 units minimum)**

### Technology in Society Requirement  
(1 course req’d; must be on Approved TIS list at ughb.stanford.edu the year taken; see note 9)

<table>
<thead>
<tr>
<th>Dept</th>
<th>Course</th>
<th>Title</th>
<th>Transfer/AP Approval by SoE</th>
<th>Unit</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td>✓ if Transfer</td>
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</tbody>
</table>

**Technology in Society Requirement Total (1 unit minimum)**

### Engineering Fundamentals (13 units minimum)

<table>
<thead>
<tr>
<th>Dept</th>
<th>Course</th>
<th>Title</th>
<th>Transfer/AP Approval by SoE</th>
<th>Unit</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>✓ if Transfer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS</td>
<td>106</td>
<td>Programming Abstractions (B or X)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGR</td>
<td>40M or 40</td>
<td>Introductory Electronics (ENGR 40 also allowed; see note 4)</td>
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<tr>
<td>Elective: May be an ENGR Fundamentals or an additional CS Depth course (see note 5)</td>
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</table>

**Engineering Fundamentals Total (13 units minimum)**

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**NOTES**

* All courses listed on this form can be included under only one category. There is no double-counting.
* All courses listed on this form must be taken for a letter grade except courses taken Spring 2019-20, and Autumn 2020-21 through Summer 2020-21.
* Minimum Grade Point Average (GPA) for all courses in ENGR Fundamentals and CS Core, Depth, and Senior Project (combined) is 2.0.
* Transfer and AP credits in Math, Science, Fundamentals, & TIS must be approved by the SoE Dean's Office. Transfer credits in Computer Science Core, Depth and Senior Project must be approved by the Computer Science undergraduate program office.
* Courses must be taken for the number of units on the Program Sheet. CS103, 106B/X, 107, 109, 110, and 161 must be taken for 5 units.

1. AP credit may be used, as long as at least 26 math units are taken. AP Calculus must be approved by SoE.
2. Math electives: Math 51, 52, 53, 104, 107, 108, 109, 110, 113; CS 157, 205L; PHIL 151; CME 100, 102, 104; ENGR 108 (or CME 103 or EE 1). Restrictions: CS 157+ Phil 151 may not be used in combination to satisfy the Math electives req’t. Students who have taken both Math 51 & 52 may not count CME 100 as an elective.
3. Any course of 3 or more units from the SoE Science List (see Approved Courses list at ughb.stanford.edu), PSYCH 30, or AP Chemistry may be used.
4. Students who take ENGR 40A or 40M for fewer than 5 units are required to take 1-2 additional units of ENGR Fundamentals (13 units minimum or 1-2 additional units of Depth (26-27 units minimum for track and elective courses).
5. See Approved Courses page at ughb.stanford.edu for approved ENGR Fundamentals list. May not be any CS 106.
### CS Information Track Program Sheet (continued)

CS Information Track Core, Depth, and Senior Project  (43 units minimum)

Be advised: no course may be listed twice on the sheet; no double-counting.

<table>
<thead>
<tr>
<th>Dept</th>
<th>Course</th>
<th>Title</th>
<th>Transfer/Deviation Approval by Dept</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>✅ if Transfer</td>
</tr>
</tbody>
</table>

**Core (15 units minimum)**

- CS 107 or 107E: Computer Organization and Systems
- CS 110 or 111: Principles of Computer Systems
- CS 161: Design and Analysis of Algorithms

**Depth: Track and Electives (25 units and seven courses minimum)**

- CS 124: From Languages to Information (Track Requirement A)
- CS 145: Introduction to Databases (Track Requirement A)
- CS Track Requirement B (see note 6)
- Elective (see note 7)
- Elective (see note 7)
- Elective (see note 7)
- Optional Elective

**Senior Project (1 course required)**

- CS At least 3 units of 191, 191W, 194, 194H, 194W, 210B, 294 or 294W (see note 9)

Computer Science Core, Depth and Senior Project Total (43 units minimum)

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### Program Approvals

**Departmental**

Printed Name: __________________________  Date: __________________________

Signature: __________________________

**School of Engineering (No action required-office use only)**

Printed Name: __________________________  Date: __________________________

Signature: __________________________

### NOTES (continued from page 1)

(6) Track Requirement B: Two courses, each from a different area: Area I) Information-based AI applications [CS 224N, 224S, 229, 233, 234]; Area II) Database and Information Systems [CS 140 or 140E, 142, 151, 245, 246, 341]; Area III) Information Systems in Biology [CS 235, 270, 274]; Area IV) Information Systems on the Web [CS 224W, 276]

(7) Track Electives: At least three additional courses selected from the Track Requirement B list, or the General CS Electives list (see note 8).

*Students may replace one track elective with a course found at: http://www.cs.stanford.edu/humanities*


(9) The WIM requirement may be met by taking CS 181W or 182W as a Technology in Society course or through the Senior Project course (191W, 194W, 210B, or 294W only).