Undergraduate Engineering Stats (as of Spring 2020)

<table>
<thead>
<tr>
<th></th>
<th>BE/BME</th>
<th>EE</th>
<th>ESE</th>
<th>ME</th>
</tr>
</thead>
<tbody>
<tr>
<td># Concentrators</td>
<td>95</td>
<td>37</td>
<td>42</td>
<td>78</td>
</tr>
<tr>
<td>% SB (vs. AB)</td>
<td>46%</td>
<td>84%</td>
<td>48%</td>
<td>88%</td>
</tr>
<tr>
<td>Median Class Size</td>
<td>25</td>
<td>21</td>
<td>16</td>
<td>28</td>
</tr>
</tbody>
</table>

Where have our recent graduates gone?

A few examples of where recent alumni are currently:

- Raytheon
- Medtronic
- Amazon
- Chevron
- Boeing
- Intuitive Surgical
- Medtronic
- Amazon
- Chevron
- Boeing
- Intuitive Surgical

You’re invited to learn more!

Talk to our engineering advisors:

- **Electrical & Mechanical Engineering:**
  - Chris Lombardo
    - lombardo@seas.harvard.edu

- **Bioengineering / Biomedical Engineering:**
  - Linsey Moyer
    - lmoyer@seas.harvard.edu

- **Environmental Science & Engineering:**
  - Patrick Ulrich
    - pulrich@seas.harvard.edu

Learn more on the web: [www.seas.harvard.edu/engineering](http://www.seas.harvard.edu/engineering)

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**Engineering @ SEAS**

Engineers solve real-world problems by applying math and science for analysis and design.

**Bioengineering**

At the intersection of life and physical sciences biomedical engineers apply principles of engineering to understand and model living systems and design novel therapies to improve human health.

Degrees offered: Engineering Sciences SB (Bioengineering track); Biomedical Engineering AB

**Electrical Engineering**

Covers a range of research areas from devices to systems, offering ample research opportunities, both theoretical and experimental, at the forefront of the field and its interdisciplinary applications.

Degrees offered: Electrical Engineering SB; Engineering Sciences AB (Electrical and Computer Engineering Track)

**Environmental Science and Engineering**

To understand, predict, and respond to natural and human-induced environmental change, environmental scientists and engineers provide technical solutions and advance innovations in environmental measurements, modeling, and control.

Degrees offered: Engineering Sciences SB (Environmental Science and Engineering track); Environmental Science and Engineering AB

**Mechanical Engineering**

Mechanical engineering uses the principles of physics and materials science for the analysis and design of mechanical and thermal systems.

Degrees offered: Mechanical Engineering SB; Engineering Sciences AB (Mechanical and Materials Science and Engineering Track)
Frequently asked questions

- What’s the difference between Bachelor of Arts (A.B.) and Bachelor of Science (S.B.)?
  - AB: 14-16 courses, more flexible requirements, can do research thesis, can do joint concentration
  - SB: 20 courses, engineering design courses, including individual capstone design project in ESE100 (this is a required thesis), ABET-accredited (for professional licensure)

- How can I get involved in research?
  - Term-time: SEAS labs welcome undergraduates to work on research projects during the term
  - Can do research for credit by taking ES 91r
  - During summer: Students regularly join SEAS labs with funding through PRISE, HCRP, HUCE
  - Many students participate in research at other universities through NSF REU programs

- What kinds of internships can I do?
  - Research internships are available through SEAS and national labs. See above.
  - Industry internships are available and can be found by attending SEAS career fairs or talking to a concentration advisor (ADUS) in any of our fields to chat about your options

- Where do I start?
  - Start taking math (according to placement) and science in your first year
  - Talk to a concentration advisor (ADUS) in any of our fields to chat about your options
  - Take one of our introductory courses (see below)
  - Joint a SEAS club (HCES, EWB, HURC, etc…)

**Full FAQ @ www.seas.harvard.edu/programs/engineering/engineering-faq**

**Common course sequences for the first two years**

**Bio/biomedical engineering**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>Foundational Math LS 1a/UPS A</td>
</tr>
<tr>
<td></td>
<td>Foundational Math Physics (LS 1b)</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Found. Math (if needed) Physics</td>
</tr>
<tr>
<td></td>
<td>Found. Math (if needed) Engineering course</td>
</tr>
</tbody>
</table>

**Tips for Bio/BME students:**
- Most Bio/BME students take ES 53 in sophomore fall, though some take the course in fall of first year
- While not strictly required for the SB program, many premed SB students take LS 1b (beyond concentration requirements)

**Electrical engineering**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>First Year</td>
<td>Foundational Math CS 50</td>
</tr>
<tr>
<td></td>
<td>Foundational Math Physics Consider: CS 50</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Found. Math (if needed) Physics</td>
</tr>
<tr>
<td></td>
<td>Found. Math (if needed) ES 155 or ES 152</td>
</tr>
<tr>
<td></td>
<td>Found. Math (if needed) CS 141 ES 156</td>
</tr>
</tbody>
</table>

**Tips for EE students:**
- First-year students who place out of Math 1b can take ESE 155 in their first fall semester
- First-year students who take CS50 in fall or have programming experience can take CS141 in spring
- Strongly recommended to start physics in first year to be able to take ESE152 (co-req Physics b) in sophomore year

**Environmental science and engineering**

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<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>First Year</td>
<td>Foundational Math LS 1a/UPS A</td>
</tr>
<tr>
<td></td>
<td>Foundational Math ESE 6 Consider: PS 11</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Found. Math (if needed) Physics</td>
</tr>
<tr>
<td></td>
<td>Found. Math (if needed) ES 51 or Engineering course</td>
</tr>
</tbody>
</table>

**Tips for ESE students:**
- Most ESE students take ESE 6 in spring of first year
- Students are highly encouraged to consider PS11 in spring of first year

**Mechanical engineering**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>First Year</td>
<td>Foundational Math ES 51, AM 10, or CS 50</td>
</tr>
<tr>
<td></td>
<td>Foundational Math Physics Consider: ES 54</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Found. Math (if needed) Physics</td>
</tr>
<tr>
<td></td>
<td>Found. Math (if needed) ES 54 (if needed) ES 120</td>
</tr>
</tbody>
</table>

**Tips for MechE students:**
- MechE students should complete ES 51 by sophomore fall
- Almost all MechE students take ES 120 in sophomore spring