

# Hardware

## What if I cannot get parts at the bookstore?

(The bookstore is no longer used for parts kits, but this information is still relevant.)

You can find the protoboard (breadboard), wire kit, and TTL-compatible parts at electronic retailers. Eta Kappa Nu, the ECE honor society, usually sells these items, and information is forwarded to students as soon as it is available. By mail order, you can try [www.jameco.com](http://www.jameco.com) and [www.digikey.com](http://www.digikey.com) or others. All parts must be DIP packages (i.e., not SOIC or other surface mount variations). Following are some part numbers. These are subject to change and provided only as a courtesy to students, so check before you order. There may be other equivalent parts at the same vendors, if these are not in stock. These vendors will ship overnight.

If you have a kit from another class and wish to reuse it, compare it with the list below. In particular, the ECE2020 kit is missing the 4-input NAND gate, the 74xxx20. (See the reading for Lab 2 to understand more about HCT/LS distinctions.)

| Part                                       | Jameco            | Digikey   | Fry's† or Allied†   |
|--|-------------------|---|---|
| Protoboard                                 | 20791             | 922318-ND                                       | 4612358†  |
| Wire Kit                                   | 19290             | 923351-ND                                       | 4612408 † (wires)<br>3849287 † (both board and wires)<br>236-1711 ‡ |
| 74HCT00N<br>or<br>CD74HCT00E               | 44871             | 568-1499-5-ND<br>296-1603-5-ND<br>296-2081-5-ND | 236-1715 ‡  |
| 74HCT02N,<br>74ACT02PC<br>or<br>CD74HCT02E | 211967            | 296-8380-5-ND<br>568-1501-5-ND                  |   |
| 74HCT04N<br>or<br>CD74HCT04E               | 44898             | MM74HCT04N-ND<br>568-1503-5-ND<br>296-2083-5-ND | 236-1719 ‡  |
| 74HCT20N<br>CD74HCT20E<br>or<br>74HCT20DB  | 45583*<br>47095** | 568-4583-5-ND<br>296-2135-5-ND                  | 236-1769 ‡  |
| 74HCT27N,<br>74ACT27PC<br>or<br>CD74HCT27E | 47378**           | 296-14890-5-ND                                  | 236-0235 ‡  |
| 74HCT74N,<br>74ACT74PC<br>or<br>CD74HCT74E | 45137<br>212011   | 296-1625-5-ND                                   | 236-1870 ‡  |

\* HC part, not HCT.  
Datasheets harder to interpret, since it is specified for several voltage levels, and is only nominally TTL-compatible when powered at +5V. But acceptable for lab.

\*\* LS part. Acceptable, again if you use the correct datasheet. (And probably what you get in

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a kit from the bookstore.)

† Fry's is in Metro  
area(Gwinett Place and  
North Fulton)

‡ Allied Electronics:  
[www.alliedelec.com](http://www.alliedelec.com)

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