CS 3520: Programming Languages

<table>
<thead>
<tr>
<th>Fall 2021 (DRAFT)</th>
<th>Language</th>
<th>Assignment (due at end of week)</th>
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<tr>
<td>Aug 23–27</td>
<td>Forth</td>
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<td>Aug 30–Sep 3</td>
<td>Forth</td>
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<tr>
<td>Sep 6–10 (Labor Day)</td>
<td>Standard ML</td>
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<td>Sep 13–17</td>
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<td>Sep 20–24</td>
<td>Standard ML</td>
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<td>Sep 27–Oct 1</td>
<td>Standard ML</td>
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<td>Oct 4–8</td>
<td>Simple interp</td>
<td>Standard ML</td>
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<td>Oct 11–15 (Fall break)</td>
<td>Lisp interp</td>
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<td>Oct 18–22</td>
<td>Scheme interp</td>
<td>Lisp interp</td>
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<td>Nov 1–5</td>
<td>Prolog</td>
<td>Scheme interp</td>
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<td>Nov 8–12</td>
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<td>Nov 15–19</td>
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<td>Nov 22–26 (Thanksgiving)</td>
<td>TBD</td>
<td>Prolog</td>
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<td>Nov 29–Dec 3</td>
<td>TBD</td>
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Changes to the schedule will be announced in class.

Resources

- Syllabus
- Examples from class
- Setting up `ssh` to connect to `cs3520.cs.dixie.edu` without typing a password:
  - Written instructions
  - Screencast demo (note, the written instructions are slightly simpler—open that page and follow along while you watch the screencast).

Languages

- Forth
  - Learn X in Y Minutes: Forth
  - Easy Forth
  - Starting Forth
  - jonesforth (assembly part)
  - jonesforth (forth part)
- Standard ML slides
  - Prolog slides part 1 (first look, rules, operators, lists)
  - Prolog slides part 2 (second look, unification, execution model, adventure game)
  - Prolog slides part 3 (cost models)
  - Prolog slides part 4 (third look, numeric computation, knapsack, 8-queens)
- A half-hour to learn Rust
- Rust via its Core Values
- Language shootout size vs speed

Assignments

See the Canvas listings for assignments and due dates. All homework is submitted using CodeGrinder unless otherwise noted.

Final project languages

In place of a final exam, each student will learn one additional language, write some code in that language, and present it to the rest of the class. Here are a few potential choices:
• Factor (Jacob, Dillon)
• Smalltalk (Logan, Hunter, Micah)
• Haskell (Kendall, Treydin, Soren)
• OCaml or F# (Will, Ammon)
• Clojure (Wyatt, Jessica)
• Common Lisp (Canon)
• Perl (Andrew, Kendra, Timothy)
• Erlang or Elixir (Diego, Jorge, Rory)
• J (Joshua)
• Tcl (Josh, Edwin)
• Silq (Jaedan, Adam)