# CSC 254/454 Fall 2018 Schedule (updated 11/26)

<table>
<thead>
<tr>
<th>wk</th>
<th>cls</th>
<th>date</th>
<th>lecture topics</th>
<th>reading (PLP 4th)</th>
<th>assignments</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Wed, Aug 29</td>
<td>intro to programming languages</td>
<td>1, 6.6.1</td>
<td>A1 meaning of life by recursion (4)</td>
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<tr>
<td>2</td>
<td>2</td>
<td>Wed, Sep 5</td>
<td>formal lang., automata review</td>
<td>2.1, 2.2</td>
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<tr>
<td>3</td>
<td>3</td>
<td>Mon, Sep 10</td>
<td>scanner code, pragmas</td>
<td>2.2</td>
<td>A2 tokenizer in Ruby/Python (6)</td>
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<tr>
<td>4</td>
<td>4</td>
<td>Wed, Sep 12</td>
<td>Context-free grammar review</td>
<td>2.3.1, 2.3.2</td>
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<tr>
<td>5</td>
<td>5</td>
<td>Mon, Sep 17</td>
<td>FIRST/FOLLOW, left recursion</td>
<td>2.3.3</td>
<td>A3 parser in Ruby/Python (8)</td>
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<tr>
<td>6</td>
<td>6</td>
<td>Wed, Sep 19</td>
<td>LR grammar, bottom-up parsing</td>
<td>2.3.4</td>
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<td>7</td>
<td>7</td>
<td>Mon, Sep 24</td>
<td>semantic analysis</td>
<td>4</td>
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<tr>
<td>8</td>
<td>8</td>
<td>Wed, Sep 26</td>
<td>translator project</td>
<td>lecture slides</td>
<td>A4 translator in Ruby/Python (12)</td>
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<td>9</td>
<td>9</td>
<td>Mon, Oct 1</td>
<td>expression translation</td>
<td>lecture slides</td>
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<tr>
<td>10</td>
<td>10</td>
<td>Wed, Oct 3</td>
<td>if-then-else code gen</td>
<td>lecture slides</td>
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<tr>
<td>11</td>
<td>11</td>
<td>Mon, Oct 8</td>
<td>Lambdas, iterators (collect and injject)</td>
<td>3.6.4, 6.5.3,</td>
<td>A5 collect/inject in Ruby/Python, A6</td>
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<td>lecture slides</td>
<td>map/fold in OCaml/Haskell (2-person</td>
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<td>groups) (5)</td>
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<tr>
<td>12</td>
<td>12</td>
<td>Wed, Oct 10</td>
<td>recursive data types, lists in OCaml by Prof. Pai</td>
<td>8.5, 8.6 (8.5.3</td>
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<td>home reading)</td>
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**Fall break**

| 8  | 13  | Wed, Oct 17   | names, scopes, bindings                             | 3.2, 3.3.1-2, 3.6.2| A5 collect/inject in Ruby/Python, A6 |
| 9  | 14  | Mon, Oct 22   | type, constructor, pattern matching                 | 7.1, 11.4.3-4     | map/fold in OCaml/Haskell (2-person|
|    | 15  | Wed, Oct 24   | higher-order functions                              | 11.6              | groups) (5)                        |
| 10 | 16  | Mon, Oct 29   | object orientation by Prof. Scott (away, CASCON)    | 10.1.1, 10.4      |                                    |
|    | 17  | Wed, Oct 31   | mid-term exam, sections in Chap. 1 to 8 (15)        |                   |                                    |
| 11 | 18  | Mon, Nov 5    | DFA in OCaml                                        | 11.4.6            | A7 translator in OCaml or Haskell  |
|    | 19  | Wed, Nov 7    | subroutine, stack, exceptions                       | 9                 | (3-person groups) (6)              |
| 12 | 20  | Mon, Nov 12   | func code generation                                | lecture slides    |                                    |
| 21 | 21  | Wed, Nov 14   | func code generation                                | lecture slides    |                                    |
| 13 | 22  | Mon, Nov 19   | compiler backend, IR, RA                            | 15.1-15.4         | A8 compiler in OCaml or Haskell (14) |
|    | 23  | Wed, Nov 21   | linking                                             | 15.6, 15.7        |                                    |

**Thanksgiving break**

| 14 | 24  | Mon, Nov 26   | concurrency fundamentals                            | 13.1, 13.2        |                                    |
|    | 25  | Wed, Nov 28   | synch, non-blocking, MS queue                      | 13.3              |                                    |
| 15 | 26  | Mon, Dec 3    | language level constructs                           | 13.4              | A9 concurrency in Java (10)         |
|    | 27  | Wed, Dec 5    | C++ generics and GC                                | 3.6.4, 7.3.1, 8.5.3|                                    |
| 16 | 28  | Mon, Dec 10   | language virtual machine and JIT                   | 16.1, 16.2        |                                    |
| 29 | 29  | Wed, Dec 12   | intro to program locality                          | lecture slides    |                                    |

**Final exam, material outside midterm (20), Tuesday, December 18, 1pm to 3pm**