

# Schedule

A week-by-week breakdown of the material.

## Week 1 (01/11-01/15)

**Day 1** OCAML setup<sup>1</sup>

**Day 2** OCAML basics<sup>2</sup> Evaluation model, basic types, bindings

**Day 3** Functions<sup>3</sup>

**Day 4** Tuples, practice<sup>4</sup>

Assignment 1<sup>5</sup> due by class time, Friday, January 22nd.

## Week 2 (01/18-01/22)

**Day 1** Lists and Option Types<sup>6</sup>

**Day 2** Pattern-matching<sup>7</sup>

**Day 3** Recursion<sup>8</sup>

**Day 4** State recursion<sup>9</sup>

Assignment 2<sup>10</sup> due by class time, Wed, January 27th.

## Week 3 (01/25-01/29)

**Day 1** Tail Calls<sup>11</sup>

**Day 2** Style reviews.

**Day 3** Recursion practice.

**Day 4** Assignment 2 style reviews. Recursion practice problems<sup>12</sup>

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<sup>1</sup><notes/setup.html>

<sup>2</sup>[notes/ocaml\\_basics.html](notes/ocaml_basics.html)

<sup>3</sup>[notes/ocaml\\_functions.html](notes/ocaml_functions.html)

<sup>4</sup>[notes/ocaml\\_functions.html](notes/ocaml_functions.html)

<sup>5</sup><assignments/hw1.html>

<sup>6</sup>[notes/lists\\_options.html](notes/lists_options.html)

<sup>7</sup>[notes/pattern\\_matching.html](notes/pattern_matching.html)

<sup>8</sup><notes/recursion.html>

<sup>9</sup>[notes/recursion\\_state.html](notes/recursion_state.html)

<sup>10</sup><assignments/hw2.html>

<sup>11</sup>[notes/tail\\_calls.html](notes/tail_calls.html)

<sup>12</sup>[notes/recursion\\_state.html](notes/recursion_state.html)

## Week 4 (02/01-02/05)

### Day 1 Type aliases and Type variants<sup>13</sup>

Assignment 3<sup>14</sup> due by class time, Monday, February 8th.

### Day 2 Polymorphic Types<sup>15</sup>

### Day 3 Type inference<sup>16</sup>

### Day 4 Anonymous Functions, Functions as values<sup>17</sup>

Assignment 4<sup>18</sup> due Thursday, February 11th.

## Week 5 (02/08-02/12)

### Day 1 Currying<sup>19</sup>

### Day 2 Exceptions and exception handling<sup>20</sup>

Assignment 5<sup>21</sup> due Wednesday, February 17th.

### Day 3 Sick day

### Day 4 Sick day

## Week 6 (02/15-02/19)

### Day 1 Higher order functions<sup>22</sup>

Assignment 6<sup>23</sup> due Monday, February 22nd.

### Day 2 List functions<sup>24</sup>

### Day 3 Introduction to Modules<sup>25</sup>

Assignment 7<sup>26</sup> due Friday, February 26th.

### Day 4 References and mutation<sup>27</sup>

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<sup>13</sup>[notes/type\\_variants.html](#)

<sup>14</sup>[assignments/hw3.html](#)

<sup>15</sup>[notes/types\\_polymorphic.html](#)

<sup>16</sup>[notes/type\\_inference.html](#)

<sup>17</sup>[notes/functions\\_anonymous.html](#)

<sup>18</sup>[assignments/hw4.html](#)

<sup>19</sup>[notes/currying.html](#)

<sup>20</sup>[notes/exceptions.html](#)

<sup>21</sup>[assignments/hw5.html](#)

<sup>22</sup>[notes/functions\\_higher\\_order.html](#)

<sup>23</sup>[assignments/hw6.html](#)

<sup>24</sup>[notes/functions\\_list.html](#)

<sup>25</sup>[notes/modules.html](#)

<sup>26</sup>[assignments/hw7.html](#)

<sup>27</sup>[notes/references.html](#)

## Week 7 (02/22-02/26)

**Day 1** Sick Day

**Day 2** Delayed Evaluation<sup>28</sup>

**Day 3** Records and Objects<sup>29</sup>

**Day 4** Building an Interpreter<sup>30</sup>

Assignment 8<sup>31</sup> due Monday, March 14th.

## Week 8 (02/29-03/04)

BREAK

## Week 9 (03/07-03/11)

**Day 1** Introduction to Racket<sup>32</sup>

**Day 2** **MIDTERM** (study guide<sup>33</sup>)

**Day 3** Introduction to Racket (cont)<sup>34</sup>

**Day 4** Bindings and Mutation in Racket<sup>35</sup>

## Week 10 (03/14-03/18)

**Day 1** Macros<sup>36</sup>

Dynamic Datatype-Programming via pairs<sup>37</sup>

Assignment 9<sup>38</sup> due Monday, March 21st.

**Day 2** Guest lecture

**Day 3** Dynamic Datatype-Programming via structs<sup>39</sup>

**Day 4** Mutation in the Interpreter: The need for a store<sup>40</sup>

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<sup>28</sup>[notes/delayed\\_eval.html](#)

<sup>29</sup>[notes/records\\_objects.html](#)

<sup>30</sup>[notes/interpreter.html](#)

<sup>31</sup>[assignments/hw8.html](#)

<sup>32</sup>[notes/racket\\_intro.html](#)

<sup>33</sup>[notes/midterm\\_study\\_guide.html](#)

<sup>34</sup>[notes/racket\\_intro.html](#)

<sup>35</sup>[notes/racket\\_bindings\\_mutation.html](#)

<sup>36</sup>[notes/racket\\_macros.html](#)

<sup>37</sup>[notes/racket\\_datatypes.html](#)

<sup>38</sup>[assignments/hw9.html](#)

<sup>39</sup>[notes/racket\\_datatypes.html](#)

<sup>40</sup>[notes/interp\\_mutation.html](#)

## **Week 11 (03/21-03/25)**

**Day 1** Mutation in the Interpreter: The need for a store<sup>41</sup>  
Assignment 10<sup>42</sup> due Friday, April 1st.

**Day 2** Mutation in the Interpreter: The need for a store<sup>43</sup>

**Day 3** Static Type-Checking vs Dynamic checking<sup>44</sup>

**Day 4** Interpreting objects and classes<sup>45</sup>

## **Week 12 (03/28-04/01)**

**Day 1** Type-checking in the interpreter<sup>46</sup>

**Day 2** Memory Management and Garbage Collection

**Day 3** Continuations and their uses

**Day 4** Continuation-passing style

## **Week 13 (04/04-04/08)**

**Day 1** Implementing Type Inference

**Day 2** TBA

**Day 3** TBA

**Day 4** TBA

## **Week 14 (04/11-04/15)**

**Day 1** TBA

**Day 2** TBA

**Day 3** TBA

**Day 4** TBA

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<sup>41</sup>[notes/interp\\_mutation.html](#)

<sup>42</sup>[assignments/hw10.html](#)

<sup>43</sup>[notes/interp\\_mutation.html](#)

<sup>44</sup>[notes/static\\_vs\\_dynamic.html](#)

<sup>45</sup>[notes/interpret\\_oop.html](#)

<sup>46</sup>[notes/interpret\\_type\\_checking.html](#)