**Programming Language Theory**

4005-710
Term 20121
Handout 1
September 3, 2012

**Syllabus**

**General Information**

**Instructor:** Matthew Fluet  
**E-mail:** mtf@cs.rit.edu  
**Office hours:** Wed. 9:00am – 11:00am; GOL-3555  
Fri. 1:00pm – 3:00pm; GOL-3555  
or by appointment

**Lectures:**  
Section 01  
MW 12:00pm – 1:50pm; GOL-1455

**Website:**  
http://www.cs.rit.edu/~mtf/teaching/20121/plt  
http://mycourses.rit.edu

**Course Description**

An introduction to the basic concepts of programming language design. It begins with a survey of the issues that are involved in the design and implementation of languages. Specific tools for the description of syntactic and semantic structure are introduced. The balance of the course is an analysis of programming language structure, using these descriptive tools to give precise form to the discussion. Programming assignments will be required.

**Prerequisites**

- 4005-450/4003-709 (Programming Language Concepts) and 1016-265 (Discrete Math I)
- or permission of instructor
Text Books

Suggested:

Title: Types and Programming Languages
Author: Benjamin C. Pierce
Publisher: The MIT Press
ISBN: 978-0262162098
Website: http://www.cis.upenn.edu/~bcpierce/tapl/
RIT Library e-book: http://albert.rit.edu/record=b1889507~S3

Title: The Formal Semantics of Programming Languages
Author: Glynn Winskel
Publisher: The MIT Press
ISBN: 978-0262731034

Additional:

Title: Practical Foundations for Programming Languages
Author: Robert Harper
Publisher: Cambridge University Press
ISBN: 978-1107029576
PDF Preprint: http://www.cs.cmu.edu/~rwh/plbook/

Title: Transitions and Trees
Author: Hans Hüttel
Publisher: Cambridge University Press
ISBN: 978-0521147095

Title: Advanced Topics in Types and Programming Languages
Editor: Benjamin C. Pierce
Publisher: The MIT Press
ISBN: 978-262162289
Website: http://www.cis.upenn.edu/~bcpierce/attapl/
RIT Library e-book: http://albert.rit.edu/record=b1889507~S3

Grades, Exams, and Assignments

Grades will be assigned based on the following grading scheme:

- **Attendance & Participation:** 10.0%
- **Homework Assignments (≈ 5):** 50.0%
- **Technical Perspective Assignment:** 10.0%
- **Mid-term Exam:** 15.0%
- **Final Exam:** 15.0%

### Attendance & Participation

Students are required to attend and expected to participate in class. Participation means being an engaged student: asking and answering questions, not simply attending class.
The use of cell phones and audio players is prohibited during class. If you must take a phone call, please leave the classroom immediately and do not return until you have ended the phone call.

The use of a laptop (or notebook or netbook) computer is permitted during class only for the purpose of taking notes. Persistent use of a laptop for other activities will result in 0 credit for your Attendance & Participation grade.

Assigned readings should be completed before the lecture section. You are responsible for the material in assigned readings, whether covered during lecture or not.

Mid-term Exam

There will be one mid-term exam; see below for date.

The mid-term exam must be taken at its scheduled time. Make-up mid-term exams will not be administered, unless exceptional circumstances have been discussed with the instructor in advance of the exam date and/or other arrangements have been made.

Final Exam

There will be a final exam; see below for the date.

The final exam must be taken at its scheduled time. Any exam conflicts must be reported to the instructor by the end of Week 6 (see the RIT Final Examination Policies).

Homework

There will be (approximately) 5 homework assignments, which will include both written and programming components.

Written components of homeworks must be clear and concise. Illegible solutions cannot be graded and will receive zero credit. You are strongly encouraged to electronically prepare your solutions. The \LaTeX typesetting system is particularly well suited for the preparation of computer science and mathematical texts (significantly more so than a word processor).

Programming components of homeworks must use the Standard ML programming language, which will be discussed in class. You will generally be provided with source code on which to base your solution.

Technical Perspective

Each student will write a “Technical Perspective” for a recent programming-languages research paper. A “Technical Perspective” is a two page paper that explains the importance of the research and the specific contributions of the paper; it is written by an expert for non-expert computer scientists and helps to place the paper within a larger research context.
You will need to choose a research paper (a list of suitable papers will be provided), read and understand the paper (which, in turn, will require reading additional background material), and write a “Technical Perspective.” Be aware that writing a short “Technical Perspective” is more challenging than writing a long paper summary.

For more information, see [tech_perspec.pdf][tech_perspec.html].

**Late Policy**

Assignments (submitted electronically and submitted in person) will generally be due at the beginning of a class period.

Assignments are to be submitted on time. However, to accommodate the occasional difficulty with meeting an assignment due date, each student begins the term with five “extension tokens.” By spending an extension token, you will receive a 24-hour extension on a single assignment. To spend an extension token, you must e-mail the instructor before the assignment is due; you cannot spend an extension token after an assignment’s due date has passed. You may spend at most two extension tokens on a single assignment (and you may spend the second extension token at any time before the first extension expires). After spending five extension tokens, late assignments will not be accepted.

**Regrading**

After a graded exam or assignment has been returned, you have **one week** to bring any questions about grading to the instructor’s attention. No grade adjustments will be made after this time.

**Important Dates**

- **October 8 (Mon.):** Mid-term Exam (in class, 110min)
- **November 16 (Fri.):** Final Exam (10:15am – 12:15pm; GOL-1455)

**Academic Integrity**

As with all courses, the [RIT Honor Code] and the [RIT Academic Honesty Policy] apply. See the Department of Computer Science’s statement on [academic integrity] for more details.

In this course, all submitted work must be your own work (i.e., written or programmed by you alone, unless explicitly stated otherwise) and must include acknowledgments of any collaborators or sources (other than course text books or handouts) used to produce your submission. However, you are not permitted to review assignments or solutions or course materials from similar courses offered at other institutions in preparing your work.

You are encouraged to discuss course material with other students. Discussion of assignments is also allowed, but sharing solutions or code is not allowed.
Disclaimer

I reserve the right to make any changes to the syllabus as I deem necessary throughout the course. Minor changes, such as assignment due dates, will be announced orally during class and posted on the course mailing list and home page. Major changes, such as grading percentages, will additionally be provided in writing.

Acknowledgements

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