Course Essentials

Course title and number	CSCE 604 – Programming Languages
Term	Fall 2015
Meeting times and location	08:00 – 09:15 am, O&M 206

Course Description and Prerequisites

Study in the design space of programming languages, covering language processing, formalisms to describe semantics of programming languages, important concepts found in current programming languages, and programming paradigms. Prerequisite: graduate classification.

Learning Outcomes or Course Objectives

The course aims to deepen understanding on the concepts and features of programming languages, and provide means to (formally) reason about languages and language features, to the extent to become able to appreciate current research and developments in the area of programming languages.

Instructor Information

Name	Jaakko Järvi
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Email address	jarvi@cse.tamu.edu
Office hours	by appointment
Office location	HRBB 416

Textbook and Resource Material

The primary text for the course is:

- Benjamin C. Pierce: Types and Programming Languages

Not all of the book will be covered, and other material is used as well, but this book will be necessary to have.

Course homepage

http://courses.cse.tamu.edu/jarvi/2015/CSCE-604/
Course Topics, Calendar of Activities, Major Assignment Dates

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<th>Week (tentative)</th>
<th>Topic</th>
<th>Material</th>
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<tr>
<td>1</td>
<td>Introduction; specifying syntax and semantics</td>
<td>(Refer to the course homepage)</td>
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<td>2</td>
<td>Structural induction; small step operational semantics</td>
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<td>3</td>
<td>Simple types; introduction to Haskell</td>
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<td>4</td>
<td>Implementing interpreters and type checkers</td>
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<td>5</td>
<td>Lambda calculus</td>
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<td>6</td>
<td>Extensions to lambda calculus</td>
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<td>7</td>
<td>More Haskell: monads</td>
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<td>8</td>
<td>Functional parsers</td>
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<td>9</td>
<td>Subtyping</td>
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<td>10</td>
<td>Handling store and references</td>
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<td>11</td>
<td>System F</td>
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<td>Bounded polymorphism</td>
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<td>Featherweight Generic Java</td>
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<td>14</td>
<td>Contemporary topics</td>
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Grading Scheme and Course Requirements

Attendance Policy
Class attendance is strongly recommended. The student is responsible for any material missed. Missed exams may be made up only when the absence is university sanctioned. Medical reasons or other extenuating conditions beyond the control of the student must be properly documented. Discuss unusual circumstances in advance with the instructor when possible.

Grading Scheme
20% of your course grade will be based on assignments and quizzes, 80% on a research project and/or exams.
A grade of 90% or above guarantees an A, 80% or above a B, 70% or above a C, and 60% or above a D. The scale may be adjusted by the Instructor to reflect score variations.

Submission of Work and Late Submission Policy
All assignments must be submitted as instructed by the due date and time. Unless otherwise stated, the CSNET portal is to be used for submissions. If the submission and media policies and guidelines provided by the instructor are not followed, submission may be rejected or penalized. Late submission beyond the deadline will receive reduced credit, unless a university sanctioned excuse is provided ahead of time. Late submission will be penalized with a loss of 5% of the total points earned per each beginning day late. For submissions for more than two days late, now credit is given. Partial credit will be given based on the work submitted.
In case you have difficulties finishing an assignment, contact the instructor before the deadline.

Re-grading Policy
The final letter grade assignments are final, unless there was a mistake made in recording your assignment or exam grades or in computing your final grade. If all numbers are correctly recorded and computed, I will not discuss changing the resulting letter grade.
There are situations that may warrant regrading a particular assignment or exam. For example, making addition errors in computing your score, not seeing an answer that you gave, or misinterpreting an answer that you gave. Requests for regrading of assignments must be made within one week after the graded work has been handed back.

**Excused Absences and Make-up Policy**

Make-ups for assignments and exams will be given only under circumstances beyond student’s control (a university sanctioned excuse). Prior arrangements with the instructor must be made when feasible and official verification of circumstances necessitating the absence will be required.

**Americans with Disabilities Act (ADA) Policy Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, the legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit [http://disability.tamu.edu](http://disability.tamu.edu).

**Copyrights**

The handouts used in this course are copyrighted. By "handouts" we mean all materials generated for this class, which include but are not limited to syllabi, lab problems, in-class materials, exams, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy such handouts, unless the author expressly grants permission.

**Scholastic Dishonesty**

As commonly defined, plagiarism consists of passing off as one’s own the ideas, work, writings, etc., that belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have the permission of the person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules ([http://student-rules.tamu.edu/rule52](http://student-rules.tamu.edu/rule52)), under the section "Academic Misconduct".

**Academic Integrity**

An Aggie does not lie, cheat, or steal or tolerate those who do.