Course Essentials

Course title and number  CSCE 314 – Programming Languages
Term                  Spring 2015
Meeting times and location  09:10 am–10:00 am, HECC 100

Course Description and Prerequisites

This course explores the design space of programming languages via an in-depth study of two program-
ing languages, one functional (Haskell), one object-oriented (Java); it focuses on idiomatic uses of each
language and on features characteristic for each language. Prerequisite: CSCE 221.

Learning Outcomes or Course Objectives

At the end of the course, students will be able to use modern programming languages more effectively
and be able to learn new programming languages more easily. They will get a broader understanding of
language constructs, common abstraction mechanisms, and efficiency considerations.

Instructor Information

Name                  Jaakko Järvi
Telephone number      (979) 345-4359
Email address         jarvi@cse.tamu.edu
Office hours          by appointment
Office location       HRBB 416

Textbook and Resource Material


2. Ken Arnold, James Gosling, and David Holmes, The Java Programming Language, 4th Ed., Addison-
Wesley Professional

Course homepage: [http://courses.cse.tamu.edu/jarvi/2015/CSCE-314/](http://courses.cse.tamu.edu/jarvi/2015/CSCE-314/)
Course Topics, Calendar of Activities, Major Assignment Dates

<table>
<thead>
<tr>
<th>Week (tentative)</th>
<th>Topic</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–2</td>
<td>Haskell &amp; Functional programming basics</td>
<td>(Refer to the course homepage)</td>
</tr>
<tr>
<td>3</td>
<td>Datatypes, Type Classes, Modules, Functions</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Calling Conventions, Memory Management</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Syntactic Analysis, Functional Parsers</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Monads</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Type Systems</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Type Systems, midterm</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Java and OO Languages Basics</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Java Generics, Co/Contravariance</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Wildcards, Reflection</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Concurrency in Java</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Concurrency in Java, JVM</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>JVM; Review</td>
<td></td>
</tr>
</tbody>
</table>

Dates for exams

- midterm: TBA
- final exam: Friday, May 8th, 8:00–10:00am

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

Your grade will be based on the following components:

- **exams 60%**: There will be one midterm exam worth 30% and one comprehensive final exam worth 30%. The exams will be held in class and are closed book and closed notes unless otherwise stated.

- **quizzes and exercises 5%**: There will be in-class quizzes and exercises, consisting of a few simple questions. Your lowest grade in this component will be dropped.

- **homework assignments 35%**: All assignments will be announced in class and posted on the course home page. If you miss class for any reason, it is your responsibility to find out what announcements you missed.

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.

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. Unless otherwise announced, late submission will be penalized with a loss of 10% of the total points earned for each beginning day late. This rule applies only for the first two days. No credit is given for submissions more than two days late. Partial credit will be given based on the work submitted.

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.

Course Conduct and Academic Integrity

Unless otherwise announced, each assignment will be done individually.

Acceptable collaboration includes: (1) discussing the assigned problems to understand their meaning or (2) discussing possible approaches to assigned problems. However, you must explicitly acknowledge any help received from someone and reference every source you use, whether it is a person, a book, a paper, a solution set, a web page or whatever.

Unacceptable collaboration includes: (1) copying (verbatim use) of physical papers or computer files (including program files), (2) submission of solutions that are jointly authored, or authored either wholly or in part by other individual, or (3) providing physical papers or computer files (including program files) of your (or third-party) solutions to other individuals.

In general, the strategy and approach of solutions may be discussed together but all actual solutions must be constructed and written up by the student herself/himself. In principle, if you work with others in good faith and are honest and generous with your attributions of credit you will have no problems.

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.

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), under the section "Academic Misconduct".

**Academic Integrity**

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