

**Course title and number** CSCE 314 [Section 502] Programming Languages

**Term** Spring 2018

**Meeting times and location** TR 11:10am–12:25pm, ETB 2005

**Course Description and Prerequisites:** This course explores the design space of programming languages via an in-depth study of two programming languages, one functional (Haskell), one object-oriented (Java); it focuses on idiomatic uses of each language, and on features characteristic for each language. Prerequisites (from the catalog): CSCE 221 or concurrent enrollment; junior or senior classification or approval of instructor.

**Learning Outcomes and 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 Prof. Dr. Hyunyoung Lee

Telephone number 979 845 2490

Email address hlee @ cse.tamu.edu

Office hours Wednesday 2:00pm–3:00pm and Thursday 2:20pm–3:20pm

Office location HRBB 410B

**Textbook and Resource Material:**

1. Required textbook I.  
Graham Hutton, *Programming in Haskell, 2nd Ed.*, Cambridge University Press.  
Paperback: ISBN 978-1316626221; Kindle: ASIN B01JGMEA3U.
2. Required textbook II.  
Ken Arnold, James Gosling, and David Holmes, *The Java Programming Language, 4th Ed.*, Addison-Wesley Professional.  
ISBN-13: 978-0-321-34980-4. ISBN-10: 0-321-34980-6.
3. Course homepage: <http://faculty.cse.tamu.edu/hlee/csce314>

**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.
- quizzes and exercises 10%: There will be quizzes and exercises, each consisting of a few simple questions. Your lowest grade in this component will be dropped.

- homework assignments 30%: 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 assignments/announcements you missed.

Final grades will be assigned according to this scale:

A: 90 and above, B: 80-89, C: 70-79, D: 60-69, F: below 60

The scale may be adjusted by the instructor to reflect score variations.

**Attendance and Make-Up Policies:** Class attendance is strongly recommended. The student is responsible for any material and announcements missed.

Make-ups for assignments, quizzes, 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.

Any make-up work must be completed before the solutions are posted or the graded results become available to the students, whichever occurs first.

See <http://student-rules.tamu.edu/rule07> for more information.

**Submission of Work, Deadline Policy, and Late Submission Policy:** All assignments must be submitted electronically using the eCampus Turnitin system by the due date and time specified in the assignment. E-mail submissions will not be accepted (they will be ignored without notice).

Late submission beyond the deadline will not receive full credit earned in general, unless a University sanctioned excuse is provided ahead of time. In general, late submission will be penalized with a loss of 2% of the total points earned per hour late. Partial credit will be given based on the work submitted.

**Regrading Policy:** A student can request regrading of any graded material, if the student believes that the points assigned are inconsistent with the quality and merits of the submitted work. To request regrading the student needs to follow the guidelines below:

1. Regrading requests must be submitted to the instructor within one week after the graded item has been returned (in hardcopy or electronically via eCampus) to the student. After this time limit no re-grading requests will be honored.
2. Regrading requests must be in written form, accompanied by a reasonable amount of specific justification and documentation.

**Course Conduct and Academic Integrity:** Each assignment will be done individually. Note the following acceptable/unacceptable collaborations:

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, and the final product must not be shared in any way. You should make sure all of your files are properly secured since you may be responsible if someone copies your files. Should questions arise during the course of working on a problem, immediately contact the instructor either by telephone, email, or by an office visit.

**Course Topics, Calendar of Activities, Major Exam Dates:**

*Tentative* schedule; please refer to the course homepage for more details and up-to-date information. ([H] Haskell textbook, [J] Java textbook)

| Week | Dates     | Topics                                     | Reading        |
|------|-----------|--|----------------|
| 1    | 1/16–1/19 | Introduction; Haskell and FL Basics        | [H] Ch. 1–3    |
| 2    | 1/22–1/26 | Functions; List Comprehensions             | [H] Ch. 4–6    |
| 3    | 1/29–2/2  | Higher-Order Functions; Defining Types     | [H] Ch. 7, 8   |
| 4    | 2/5–2/9   | Syntactic Analysis; Memory Management      | [H] Ch. 15, 16 |
| 5    | 2/12–2/16 | I/O; Monads                                | [H] Ch. 10, 12 |
| 6    | 2/19–2/23 | Monads; Functional Parsers                 | [H] Ch. 12, 13 |
| 7    | 2/26–3/2  | Functional Parsers; Type Systems           | [H] Ch. 12, 13 |
| 8    | 3/5–3/9   | Type Systems; Midterm Exam (Thursday, 3/8) |                |
|      | 3/12–3/16 | Spring Break                               |                |
| 9    | 3/19–3/23 | Java and OO Language Basics                | [J] Ch. 1–5    |
| 10   | 3/26–3/30 | Java Generics; Co/Contravariance           | [J] Ch. 6–11   |
| 11   | 4/2–4/6   | Wildcards; Java Concurrency                | [J] Ch. 12–14  |
| 12   | 4/9–4/13  | Concurrency; Reflection                    | [J] Ch. 14, 16 |
| 13   | 4/16–4/20 | JVM  |                |
| 14   | 4/23–4/27 | JVM; Final Review                          |                |

Final exam: Thursday, May 3, 2018, 3:00-5:00 p.m. in our classroom.

**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, this 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, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. 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, in-class materials, class notes, solutions provided by the instructor, exams, review sheets, and problem sets. Because these materials are copyrighted, you do not have the right to copy such handouts, unless the author expressly grants permission.

**Academic Misconduct:** 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 Statement:** *“An Aggie does not lie, cheat, or steal or tolerate those who do.”*

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the Texas A&M University community from the requirements or the processes of the Honor System. For additional information please visit <http://aggiehonor.tamu.edu>.

On all assignments and examinations at Texas A&M University, the following Honor Pledge shall be preprinted and signed by the student: *“On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work.”*