

科目ナンバリング		U-LAS30 20040 SE11									
授業科目名 ＜英訳＞		Programming Practice (Java) -E2 Programming Practice (Java) -E2				担当者所属 職名・氏名		情報学研究科 特定准教授 EVEN , Jani Juhani luc			
群	情報学科目群			分野(分類)		(各論)			使用言語	英語	
旧群		単位数	4単位	週コマ数	2コマ	授業形態	演習（対面授業科目）				
開講年度・ 開講期	2025・前期		曜時限	水4・5		配当学年	全回生	対象学生	全学向		
【授業の概要・目的】											
<p>Java is an object-oriented language that is designed to be robust, secure, and portable while maintaining high performance. Java is a popular language used for numerous desktop applications, mobile applications, and web applications. Java has many libraries covering among others graphical user interface, networking, database access and scientific computing. The learning curve of Java is higher than that of simpler language like Python or Ruby but the reward is a higher maintainability.</p> <p>In this course, students will learn to write programs that exploit the strengths of Java. First, the language will be presented and students will familiarize themselves with object-oriented programming while learning the basics of Java. Then, more advanced topics will be presented and illustrated with problem solving.</p>											
【到達目標】											
<p>In this course, the students will learn the concepts of object-oriented programming, practice object-oriented programming with Java and learn to solve real problems using programming. After attending this course, the students should be able to write efficient object-oriented Java programs that are easy to maintain.</p>											
【授業計画と内容】											
<p>Part 1: Basic Java syntaxe (2 sessions)</p> <ul style="list-style-type: none"> • Basic Java syntax: types, variables, operators • Flow control: Branching and looping • Arrays <p>Part 2: Object-oriented programming with Java (3 sessions)</p> <ul style="list-style-type: none"> • Object-oriented programming and Java Classes • Class fields and methods • Class creation and instances • References and values • Access Control, scope, package • Interface • Inheritance <p>Part 3: Programming with Java (6 sessions)</p> <ul style="list-style-type: none"> • Java API • Exceptions • I/O • Parallel processing • Functional interface and lambda expressions • GUI using JavaFX <p>Part 4: Program design, implementation, and test (3 sessions)</p> <ul style="list-style-type: none"> • Problem presentation 											
----- Programming Practice (Java) -E2(2)へ続く -----											

Programming Practice (Java) -E2(2)

- Program design
- Implement and test

The schedule and contents are subject to change based on class progress.

Total 14 classes and one feedback class.

【履修要件】

This course is designed for students with some programming experience in another language. The basics of programming are briefly presented so motivated students with no programming experience can apply. This is a practical programming class that does not present the mathematical foundations and focuses on programs themselves. Small programs will be given to introduce and explain all the concepts that are presented. The students are expected to complete the programming tasks in parts 1 to 3 during the classes. However, the programming tasks of part 4 and the assignments may require some homework outside of the classes.

Students must bring their own computer to participate to this course (BYOD).

Installing Java is easy on standard operating systems (Windows, Mac, and Linux).

【成績評価の方法・観点】

The evaluation will be based on the completion of a programming assignment given after part 1 and 2 (50 %) and programming assignment given after part 3 and 4 (50 %). The notation criteria will be explained in details during the classes.

【教科書】

No textbook, handouts.

【参考書等】

(参考書)

[1] David J. Eck “ Introduction to programming using Java, eight edition ” (creative commons) ISBN: 978-1441419767

[2] Hideki Tachiki and Taeko Ariga “ JAVA Programming 3rd Edition for All ” (Kyoritsu Shuppan) ISBN: 978-4-320-12423-3

[3] Java API (for java8: <https://docs.oracle.com/javase/8/docs/api/>)

【授業外学修（予習・復習）等】

If very unfamiliar with programming, it may be necessary to read a textbook and practice programming in addition to the class. Students who could not complete the tasks given during a class should complete them before the next class in order to smoothly follow the course.

【その他（オフィスアワー等）】

There is no specific office hour. Students can use e-mails for important communications, assignments, and questions.

【主要授業科目（学部・学科名）】