# Introduction to Computer Science

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| **Course Code** | | | |
| **Class Times** | Mon/Wed/Thu 9:00~12:00 | **Classroom** | Bldg. 301-203 |
| **Equivalent Year Level** | 1~2 | **Course Credit** | 3 |

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| **Instructor I** | Taewhan Kim | **Sessions** | 1-14 |
| **Office** | 301-603 | **Email** | tkim@snucad.snu.ac.kr |

## ❑ Instructor's Profile (Sessions 1-14)

**Taewhan Kim**

He has a broad knowledge of computer science as well as electrical engineering, and experience in teaching and research over 20 years. He is mainly working on applying computer algorithmic and computing theories to many important optimization problems of the hardware synthesis for very large scaled integrated (VLSI) circuits and systems. He received Education Award in 2016 from Seoul National University, best teaching award in 2015 from School of Electrical and Computer Engineering, and Shin-yang Award in 2006 from College of Engineering for outstanding research. His website is *http://ssl.snu.ac.kr/~tkim*.

**Education**

Ph.D. in Computer Science, University of Illinois at Urbana-Champaign, USA
B.S. in Computer Science and Statistics, Seoul National University

**Expertise**

- Design methodology of electronic circuits and systems
- Embedded system design and verification
- Design automation software tool development

**Most Recent Works**

- Clock and power delivery networks design for mobile chips
- Research on neuromorphic computing chip architectures

## ❑ Course Information

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| Course Description | This course covers two parts: One part is learning basic problem solving techniques that are essential for beginners of studying computer science. It offers, without any prior algorithmic knowledge, how we can view and analyze complex computing or algorithmic problems to find efficient and effective solutions or strategies. The second part is learning JAVA programming language. Step-by-step JAVA programming practice is provided. Starting from a simple task to program, a number of tasks for practicing various JAVA features will be covered. Students who complete this course are able to improve their potential of solving complex computing problems as well as JAVA programming capability. |
| Course Evaluation | Class participation 20% (full 20% or grade F: see class policy)<br>Homework 20%<br>· 2 Basic problem solving assignments (6/26, 7/4)<br>· 3 Programming assignments (easy: 7/4, moderate: 7/11, intensive: 7/18)<br>Midterm exam 30% (7/11)<br>Final exam 30% (7/26) |
| Course Materials | On To JAVA, 3rd Edition, P. Winston and S. Narasimhan (optional)<br>Handout for problem solving materials. |
| Class Policy | Up to 3 times of missing class is allowed with no penalty, but for more than 3 times of missing class, grade F will be given. |
| Etc. | Handout will be distributed for problem-solving materials and JAVA programming code |

## ❑ Course Schedule

**Session 1 (Jun. 26) - Overview & Introduction**
- **Problem solving assignment 1 (due 1-week)**

**Session 2 (Jun. 28) - JAVA Inputs/Outputs**
**Session 3 (Jul. 2) - JAVA variables, simple programming**
**Session 4 (Jul. 4) - JAVA conditionals, practice**
- **Problem solving assignment 2 (due 1-week)**
- **Programming assignment 1 (due 1-week)**

**Session 5 (Jul. 5) - Problem solving and JAVA loops, practice**
**Session 6 (Jul. 9) - JAVA programming practice**
**Session 7 (Jul. 11) - *Mid-term Exam***
- **Programming assignment 2 (due 1-week)**

**Session 8 (Jul. 12) – Problem solving and JAVA arrays**
**Session 9 (Jul. 16) - JAVA class basics**
**Session 10 (Jul. 18) - JAVA methods, class instances**
- **Programming assignment 3 (due 7/25)**

**Session 11 (Jul. 29) - JAVA functions, parameter passing**
**Session 12 (Jul. 23) - JAVA class hierarchy**
**Session 13 (Jul. 25) - JAVA recursion, File IO**
**Session 14 (Jul. 26) - *Final Exam***