

Course Syllabus

Please note that the specifics of this Course Syllabus are subject to change. Instructors will notify students of any changes and students will be responsible for abiding by them. Even if you print this syllabus, please check the online version often.

Description

IST 240: Introduction to Computer Languages (3 credits)

This course provides an introduction to computer languages. The term computer language is used in a general sense to include programming languages. Java is the language of choice in this course. You will continue to learn Java following from what you learned in IST 140. This is a lab-based course in which students will solve problems by themselves.

Prerequisites

- A grade of "C" or better in IST 140 or CMPSC 101.

Objectives

Upon completion of this course, the student will be able to:

- Develop, test, and execute Java applications.
- Work with Java in a way that demonstrates understanding of the principles behind the programming language.
- Demonstrate understanding of the principles of object-oriented programming including classes, inheritance and arrays.

Instructor & TA

- Instructor: Taegyu Kim, tgkim@psu.edu (<mailto:tgkim@psu.edu>)
- TA: Giyeol Kim, giyeol.kim@psu.edu (<mailto:giyeol.kim@psu.edu>)
- Instructor's office hours: Thursday 4:00PM ~ 5:00PM (please make an appointment in advance)
- Instructor's office: E361 Westgate Building

All course-related email, including messages to your instructor(s) and fellow students should be sent within Canvas, using the Inbox. Every attempt will be made for the instructor (or a substitute) to respond to email questions within 24 hours.

Additional instructor information can be found by selecting People and then the Teacher name.

Attendance

- Every Monday & Wednesday
- Time: 4:00 PM - 5:15 PM
- Location: E210 Westgate building

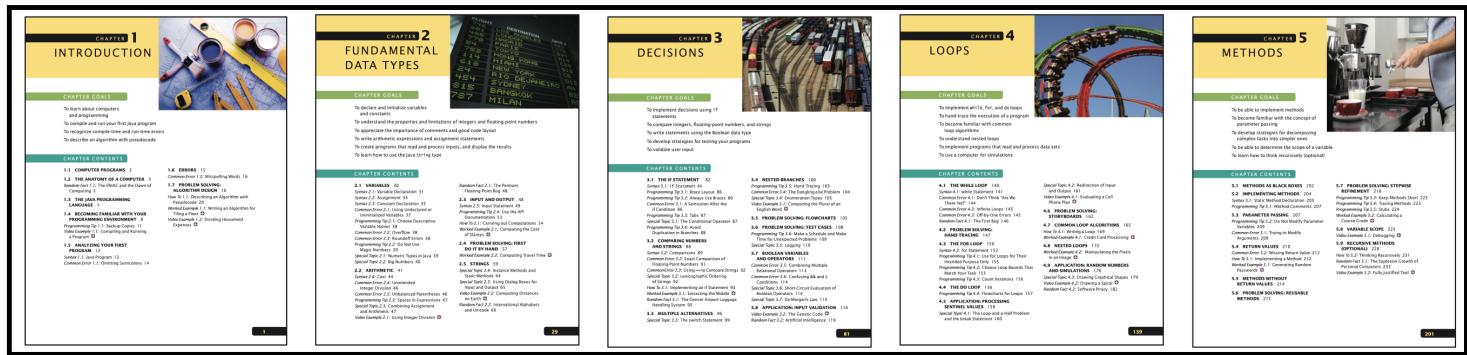
Materials

Recommended Text:

- Horstmann, C. (2013). *Big Java: Late Objects*, Wiley. ISBN: 9781118087886
 - An online version of this text is available at no cost via
<http://ezaccess.libraries.psu.edu/login?>
<url=https://ebookcentral.proquest.com/lib/pensu/detail.action?docID=2055777> ↗
<http://ezaccess.libraries.psu.edu/login?>
<url=https://ebookcentral.proquest.com/lib/pensu/detail.action?docID=2055777>). You may choose to use the E-Book as an alternative to purchasing a physical copy of the text. For questions or issues, you can contact the [University Libraries Reserve Help \(mailto:UL-RESERVESHELP@LISTS.PSU.EDU\)](mailto:UL-RESERVESHELP@LISTS.PSU.EDU). ↗
<http://ezaccess.libraries.psu.edu/login?>
<url=https://ebookcentral.proquest.com/lib/pensu/detail.action?docID=2055777>.

Recommended readings from the pre-requisite courses

- Chapters 1 to 5



Recommended Text:

- Chapters 6, 8 and 9

CHAPTER 6 ARRAYS AND ARRAY LISTS

CHAPTER GOALS

- To collect elements using arrays and array lists
- To use the enhanced for loop for traversing arrays and array lists
- To learn common algorithms for processing arrays and array lists
- To work with two-dimensional arrays

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CHAPTER 8 OBJECTS AND CLASSES

CHAPTER GOALS

- To understand the concepts of classes, objects, and encapsulation
- To implement instance variables, methods, and constructors
- To be able to design, implement, and test your own classes
- To understand the behavior of object references, static variables, and static methods

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CHAPTER 9 INHERITANCE AND INTERFACES

CHAPTER GOALS

- To learn about inheritance
- To implement subclasses that inherit and override superclass methods
- To understand the concept of polymorphism
- To be familiar with the common superclass Object and its methods
- To work with interface types

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- See the recommended readings for each lesson in the LESSONS tab on Canvas and also specific readings in each Lab.

Labs

Lab 01 – Creating a Class – 8.1 and 8.2

Lab 02 – Methods – 8.5

Lab 03 – Constructors – 8.6

Lab 04 – Objects as Parameters – 8.5

Lab 05 – Encapsulation – 8.1, 8.2, 8.3 and 8.5

CHAPTER 8 OBJECTS AND CLASSES

CHAPTER GOALS

- To understand the concepts of classes, objects, and encapsulation
- To implement instance variables, methods, and constructors
- To be able to design, implement, and test your own classes
- To understand the behavior of object references, static variables, and static methods

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Lab 06 – Inheritance – Extending a Class – 9.1, 9.2, 9.3, 9.4

Lab 07 – Inheritance – Creating a multilevel Hierarchy – 9.1, 9.2, 9.3, 9.4

Lab 08 – Arrays – 6.1, 6.2, 6.3

Lab 09 – ArrayLists – 6.1, 6.2, 6.3 and 6.8

Lab 10 – Searching an ArrayList – 6.1, 6.2, 6.3 and 6.8

CHAPTER 9

INHERITANCE AND INTERFACES

CHAPTER GOALS

To learn about inheritance
To implement subclasses that inherit and override superclass methods
To understand the concept of polymorphism
To be familiar with the common superclass Object and its methods
To work with interface types



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CHAPTER 6

ARRAYS AND ARRAY LISTS

CHAPTER GOALS

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To use the enhanced for loop for traversing arrays and array lists
To learn common algorithms for processing arrays and array lists
To work with two-dimensional arrays



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Grading

Labs	70 %
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Quizzes	20%
Attendance	10%

No late assignments.

Course Grading Scale

The following are minimum cutoffs for each grade:

- 93.00% = A
- 90.00% = A-
- 87.00% = B+
- 83.00% = B
- 80.00% = B-
- 77.00% = C+
- 70.00% = C
- 60.00% = D
- less than 60.00% = F

Course Policies and Expectations

- Logging into Canvas - Students are expected to login regularly to check for course updates, announcements, emails, discussions, etc.
- Emailing through Canvas - Students are expected to use Canvas for all course email communication.
- Attending courses

Academic Integrity

Penn State and the College of Information Sciences and Technology are committed to maintaining [Penn State's policy on Academic Integrity \(<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/47-00-48-00-and-49-00-grades/#49-20>\)](http://senate.psu.edu/policies-and-rules-for-undergraduate-students/47-00-48-00-and-49-00-grades/#49-20) in this and all other courses. We take academic integrity matters seriously and expect you to become a partner to the University/College standards of academic excellence.

For more information, please review these policies and procedures:

(<https://student.worldcampus.psu.edu/a-z-index/academic-integrity>).

- [College of IST Academic Integrity Resources](https://ist.psu.edu/current/undergraduate/advising/integrity) 
(<https://ist.psu.edu/current/undergraduate/advising/integrity>).

WARNING: In addition to other policies, using any material in any media format - from "answer sites" (such Course Hero, Chegg, and all others) and/or other type of sources - is considered CHEATING and will not be tolerated. Sanctions range from failure of the assignment or course to dismissal from the University. Contact your instructor with questions related to this topic.

While using tutoring services are encouraged, they should be accessed for gaining conceptual confidence with course content. You should not be asking tutors for direct help with labs or quizzes.

University Policies

Review current information regarding various Penn State policies (such as copyright, counseling, psychological services, disability and military accommodations, discrimination, harassment, emergencies, trade names, etc.) on the [**University Policies**](#)
[\(\)](https://docs.google.com/document/d/1FIQdII2qw3SJ0lgQWTWRByCxSbsnY6DcZA0JHzL4yBk/pub) page.

Resources

Find extensive information and links to many Penn State and IST resources (including the Penn State libraries, video conferencing tools, technology and software, writing and research help, and much more) on the [**Resources**](#)

[\(\)](https://docs.google.com/document/d/1Zsu5Lgaic3kLLiM3co5mxWU5B7lOfu15sppAQvsym6E/pub) page.

Virtual access to the Java JDK and Netbeans IDE

All the labs should done using NetBeans and submitted as a zipped NetBeans project.

If you are unable to install the Netbeans IDE on your computer, the Netbeans IDE can be accessed through IST's virtual lab environment WinLabs.

- [**More information on using WinLabs**\(\[Links to an external site.\]\(https://www.up.ist.psu.edu/winlabs/\)\)](#)
[\(\)](https://www.up.ist.psu.edu/winlabs/)
- [**Access WinLabs through your browser**\(\[Links to an external site.\]\(https://winlabs.up.ist.psu.edu/\)\)](#)
[\(\)](https://winlabs.up.ist.psu.edu/)
- For technical assistance with WinLabs, contact helpdesk@ist.psu.edu
[\(<mailto:helpdesk@ist.psu.edu>\)](mailto:helpdesk@ist.psu.edu) or call 814-863-8803.