



# Introduction To Computer Science

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**Fall 2014**



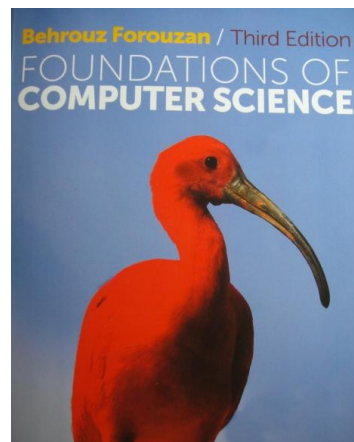
## Textbook

### **Foundations of Computer Science**

**Third Edition, 2014**

**By**  
**Behrouz A. Forouzan**

***Cengage Learning***



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## Reference Book

**Discovering Computers, Complete:  
Your Interactive Guide to the  
Digital World**

**International Edition, 2012**

**By**

**Gary Shelly, Misty Vermaat, Jeffrey  
Quasney, Susan Sebok, Steaven Freund**

***Cengage Learning***



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## Course Time and Office Hours

- **Course Time & Place:**
  - A: 08:10 ~ 11:00, Monday, C332
  - B: 08:10 ~ 11:00, Tuesday, C332
  - C: 08:10 ~ 11:00, Wednesday, C332
- **Office Hours & Place:**
  - 13:10 ~ 16:00, Tuesday, C309
  - 13:10 ~ 16:00, Thursday, C309
- **TA Hours & Place:**
  - 13:10 ~ 17:00, Wednesday & Friday, C207

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## Grading

- **Attendance** : -10 % ~ 5 %
- **Homework** : 40 %
- **Mid-term Test** : 30 %
- **Final Test** : 30 %



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## Attendances -10~5 %

- **Roll call for each class**  
-0.5 each since 2nd time arrival late
- **Signature for each class**  
-1 for 1st absence, -2 each since 2nd time absence

### Exception:

- ◆ **Final test (Extra Final Test) will be rejected if number of absences is up to six** because your learning has not been recognized to complete this course.



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## Homework 40 %

- **Paper work** for assignments

Grading for sum of righted answers in total problems

- **Video work** for assignments (**QNew**)

Grading for sum of videos

- **Deliver your paper/video works on time**

The score should be reduced due to late works

- **Quizzes**

Grading for sum of righted answers in total problems.

- **Don't cheat for your homework**

The score would be zero once one is verified.



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## Mid-term Test 30 %

## Final Test 30 %

- **4-page Problems in English**

Closed book and 100 points are maximally graded from 115~130-point problems

- **Don't cheat in any test**

The score would be zero once one is verified.

- **Open all the grading** (You can check your scores about homework and tests anytime)

- **No 58~59.9 points in term score**

- May an Extra make up for Final Test.



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# Teaching Web

<http://www.nhu.edu.tw/~chun>

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蘭潭, Chiayi

Overview of Xiamen Univ & South Putuo Temple, Aug 2014

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## Contents for Introduction To Computer Science

### Ch1. Introduction:

- Turing model, Von Neumann model, Computer components, History, Social and ethical issues.

### Ch2. Number Systems:

- Binary, Octal, Decimal, and Hexadecimal systems.

### Ch3. Data Storage:

- Data types, Storing numbers, Storing text, Storing audio, Storing images, and Storing video.

### Ch4. Operations on Data:

- Logic operations, Shift operations, and Arithmetic operations.

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## Contents for Introduction to Computer Science

### Ch5. Computer Organization:

- Central processing unit, Main memory, I/O subsystem, Subsystem interconnection, Program execution, Different architectures, and A simple computer.

### Ch6. Computer Networks and Internet:

- Introduction, TCP/IP protocol suite, Layers, and Internet applications.

### Ch7. Operating Systems:

- Introduction, Evolution, Computers, and survey of operating systems.

## Midterm Test



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## Contents for Introduction To Computer Science

### Ch8. Algorithms:

- Concept, Three constructs, Algorithm representation, A formal definition, Basic algorithms, Sub-algorithms, and Recursion.

### Ch9. Programming Languages:

- Evolution, Translation, Programming paradigms, and Common concepts.

### Ch10. Software Engineering:

- Software lifecycle, Analysis phases, Design phase, Implement phase, Test phases, and Documentation.

### Ch11. Data Structure:

- Arrays, Records, and Linked lists.

### Ch12. Abstract Data Types:

- Stacks, Queues, General linear lists, Trees, Binary trees, Binary search trees, and Graphs.



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## Contents for Introduction To Computer Science

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### Ch13. File Structure:

- Access methods, Sequential files, Indexed files, Hashed files, Directories, and Text versus binary.

### Ch14. Databases:

- Database management systems, Database architecture, Database models, Relational database model, Operations on relations, and Database design.

### Ch15. Data Compression:

- Lossless compression and Lossy compression methods.

## Final Test



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## The Structure of Each Chapter

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### Objectives

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### End –Chapter Materials

Recommended Reading

Key Terms

Summary

### Practice Set

Quizzes

Review questions

Problems

Applets



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