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Summer 2012

## CS 242: Computer Programming III

Yong Pei

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# CS 242 Computer Programming III

4 Credits

## Syllabus

**Time/Place:** Lecture: 2:45 – 4:00 PM, M. & W., RC 150

**Instructor:** Dr. Yong Pei, 489 Joshi Research Center  
Tel. 937-775-5111, Email: yong.pei@wright.edu  
Office Hours: 1:30-2:30 pm, M./W.

**Prerequisites:** (CS 241 and MTH 257) or CEG 221

### Textbooks:

- **Required:** Data Structures & Other Objects Using C++, 4th Edition, by Michael Main and Walter Savitch, Addison-Wesley, 2010, ISBN: 978-0-13-212948-0
- **Recommended:** C++ How to Program, 8th Edition, by Deitel, Prentice Hall, 2011, ISBN: 978-0-13-266236-9
- **Recommended:** Absolute C++, 4th Edition, by Walter Savitch, Addison-Wesley, 2010, ISBN: 978-0-13-608381-8

### Supplemental Readings:

- Lecture slides will be posted through PILOT.

### Course Webpage: Through PILOT

**SDK:** Microsoft Visual C++

(Microsoft Visual Studio 2010 is available as a free download for WSU students at [www.dreamspark.com](http://www.dreamspark.com) or you can also use the express version available at <http://www.microsoft.com/express/Windows/>)

<b>Workload:</b>	4 Programming Assignments (@ %7.5)	30%
	1 Midterm Examination	25%
	8 Laboratory Projects (@3.75%)	30%
	1 Final Examination	25%

**Grading:** 90-110 A, 80-89.9 B, 70-79.9 C, 60-69.9 D, below 60 F

## Lectures:

The following **tentative** schedule defines in greater details what material is covered in the course and when it is covered.

<u>Week</u>	<u>Topics</u>	<u>Reading</u>
<u>1-2</u>	<u>Basic C++ Syntax</u> <u>I/O Streams</u> <u>Exception Handling</u>	<u>Chapter 1-3</u> <u>Appendix F</u> <u>Appendix L</u>
<u>3</u>	<u>Dynamic Memory Allocation and Pointers</u>	<u>Chapter 4</u>
<u>4</u>	<u>Linked Lists (singly linked, doubly linked and circular)</u>	<u>Chapter 5</u>
<u>5</u>	<u>Templates, Iterators and Standard Template Library (STL),</u> <u>Inheritance, Polymorphism and Virtual Functions</u>	<u>Chapter 6</u> <u>Chapters 14.1-14.3</u>
<u>6</u>	<u>Stacks and Queues</u> <u>Applications</u>	<u>Chapter 7-8</u>
<u>7-8</u>	<u>Recursion (Review)</u> <u>Binary Trees and Binary Search Trees</u>	<u>Chapter 9</u> <u>Chapter 10</u>
<u>9-10</u>	<u>Sorting by insertion, selection and exchange</u> <u>Advanced Sorting Algorithms: Quicksort, Heapsort and Mergesort</u> <u>Searching (linear, binary and interpolation)</u>	<u>Chapter 12.1</u> <u>Chapters 11.1 and 13</u>