MGT 4803 – Business Programming
Fall 2013

Georgia Tech Ernest Scheller Jr. College of Business

Class Time & Location	MWF 3:05-3:55pm - Room 103, College of Business
Instructor	Hemang C. Subramanian
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Office Hours	Monday 1:00-3:00pm (or by appointment)

Course Overview

Thanks to the dramatic progress of Information Technology (IT), IT-enabled information systems have become the central nervous system of modern enterprises and the crucial resources to create competitive advantage in business. Computer programming lies at the core of all these systems, from customer relationship management to enterprise resource planning, and from business intelligence to knowledge management. A good understanding of the essential concepts and skills of programming will thus enable business managers to solve business problems and identify business opportunities in a broad range of contexts. Whether you are a system analyst trying to bridge the gap between software developers and end users, a marketing manager hoping to streamline customer relationship management process, or a data specialist aiming to perform sophisticated data analysis, a solid training in programming combined with a deep understanding of business contexts will lay down the foundation for a successful business career. This course is designed to prepare you along this direction.

This course will start from the basic concepts and skills of programming, so prior programming experience is not required. We will use Java as the focal programming language, while the programming concepts and thinking apply generally to other programming languages as well. We will then apply these skills to various contexts useful for different business purposes, such as developing an Android application for customer relationship management, linking to database management systems to process data for business analytics tasks, and parse webpage content to collect data from the Internet. After a series of carefully designed homework and projects, this course will well prepare students for other courses on various IT-related topics (e.g., system analysis and design, database management, business analytics).

Learning Objectives

After this course, students should be able to:

- Understand programming concepts to identify and solve business problems;
- Master the essential skills of Java programming;
- Develop simple Android applications for various business purposes;
- Connect to database management systems and process data for business analytics tasks;
- Parse webpage content and collect data from the Internet;
- Collaborate in team to work on system development projects;
- Get prepared for other IT-related courses.

Course Materials

Primary Textbook

- *Cay S. Horstmann (2011) Java for Everyone, 2nd Edition, John Wiley & Sons (ISBN 978-1118063316)*

Required Readings

- Lecture notes and other teaching materials posted on T-Square.

References

- *Bruce Eckel (2006) Thinking in Java, 4th Edition, Prentice Hall (ISBN 978-0131872486)*
- A good video-library of Java programming essentials for self-learning can be found at http://thenewboston.org/list.php?cat=31.

Grading

Grading Details	Points
Class Participation	10%
Homework Assignments and Projects	50%
Midterm Exam	20%
Final Exam	20%
Total	**100%**

Georgia Tech Honor Code

This course will follow the guidelines established by Georgia Tech's honor code and student handbook. All sources of information quoted in any of the course assignments are to be appropriately acknowledged. Please keep in mind that academic dishonesty includes (a) cheating, (b) fabrication and falsifications, (c) multiple submissions, (d) plagiarism, and (e) complicity in academy dishonesty. Violations of the code in any form will be addressed to the full extent allowed by the Honor Code.

Students will be asked to acknowledge their acceptance of this stipulation and their willingness to abide by all terms of the Honor Code by signing a copy of the "Honor Agreement" attached to all exams.

The complete text of the Honor Code can be found at www.honor.gatech.edu.

Classroom Conduct

- Students will be given designated times when the instructor tells them to open their laptops for in-class exercises or practice sessions, usually on Fridays.
- Assignments should be worked upon individually or in groups as required by the instructor.
- During class, mobile phones should remain switched off.
- Punctuality will be valued exceptionally, since the best learning happens in class (and not out of class)

Tentative Weekly Schedule

Part 1: Programming Basics

Week 1: **Introduction**
- Course introduction and overview;
- Introduction to Java programming language;

Week 2: **Data Types**
- The concepts of variables
- Input and output
- *Homework Assignment #1*

Week 3: **Decisions**
- IF and conditions
- The loops

Week 4: **Methods**
- Basics of methods
- Parameter passing and return values
- *Homework Assignment #2*

Week 5: **Arrays and Array Lists**
- Arrays
- Multidimensional arrays

Midterm Exam

Week 6: **Objects and Classes**
- Object-oriented programming
- Classes and methods
- Constructors and destructors

Week 7: **Inheritance and Interface**
- Inheritance hierarchies
- Polymorphism
- Types of interfaces
- *Homework Assignment #3*

Part 2: Business Applications

Week 8: **Android Application: Basic**
- Introduction to Android programming
- Basics of multithreading

Week 9: **Android Application: More**
- Building a simple user Interface
- Understanding Android Emulators

Week 10: **Customer Relationship Management Application**
- Creating an Android project
- Understanding customer relationship management processes
- *Team Project #1*

Week 11: **Connecting to Database Management Systems**

- Introduction to JDBC
- Reading and writing data from/to DBMS

Week 12: **Data Processing**

- Organize raw data into databases
- Process data into forms ready for analysis
- *Team Project #2*

Week 13: **Parse Webpage Files**

- Introduction to HTML
- Parse a webpage file in Java

Week 14: **Collect Data from the Web**

- Scrape data from the Internet
- *Team Project #3*

Week 15: **System Development and Project Management**

- System development overview
- Guest speaker

Week 16: **Course Conclusion and Review**

Final Exam