

# IST163: Programming Practicum

## Course Syllabus – Spring 2015, TR 9:30 AM – 10:45 AM, ML 119

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**Office Hours** : MWF: 8:30a – 10:30a  
Other times by appointment ONLY  
If you need to find me, search for me along with the hash tag #IST163 on Twitter as I will update my whereabouts and what we cover this semester:  
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**University Policies** : By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to <http://www.marshall.edu/academic-affairs> and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to [http://www.marshall.edu/wpmu/academic-affairs/?page\\_id=802](http://www.marshall.edu/wpmu/academic-affairs/?page_id=802)

Academic Dishonesty / Excused Absence Policy for Undergraduates / Computing Services Acceptable Use / Inclement Weather / Dead Week / Students with Disabilities / Academic Forgiveness / Academic Probation and Suspension / Academic Rights and Responsibilities of Students / Affirmative Action / Sexual Harassment

### Textbook:

The following textbook is required for the course:

**C++ Programming: From Problem Analysis to Program Design**, 7<sup>th</sup> edition, by D.S. Malik; Course Technology; ISBN: 978-1-285-85274-4, 2015. E-Book Available from CengageBrain.com

### Computer Requirements:

Supplemental materials can be found within the Blackboard Learn environment (<http://www.marshall.edu/muonline/>). I will be sending class announcements, updates, etc. using your Blackboard account (will discuss during the first lecture if necessary). Access to a Web browser is required, as is Adobe Acrobat Reader (<http://get.adobe.com/reader/>), and Microsoft Visual Studio 2012 Professional (or higher). This software package is available for free to students in this course (see <http://www.marshall.edu/isat/software/> for specifics).

### Course Description:

Concepts of software development and maintenance using C++, including syntax of the language, loops, functions, classes, decision structures, and file processing. Proper program design using object-oriented programming techniques are emphasized.

### Credit:

The course is three (3) credit hours. It includes classroom lectures, exams, and various programming

projects assigned as homework assignments. Students will participate in various aspects of projects that illustrate the implementation of concepts in general applications.

**Pre/co-requisites:**

N/A

**Desired Objectives/Outcomes:**

By the end of this course, you should be able to:

Course Student Learning Outcomes	How Practiced in this Course	How Assessed in this Course
Discuss Object-Oriented programming concepts	In-class examples, discussions, Chapter 10 examples	Project 9
Demonstrate basic console programming skills using C++	In-class examples, discussions, Chapters 2 through 10 examples	Projects 1 through 9 Final Exam
Develop software applications using Microsoft Visual Studio 2012	In-class examples, discussions, Chapters 2 through 10 examples	Projects 1 through 9 Final Exam
Demonstrate planning techniques for developing software applications	In-class examples, discussions, Chapters 1 through 10 examples	Projects 8 through 9 Final Exam
Work through programming logic	In-class examples, discussions, Chapters 2 through 10 examples	Projects 1 through 9 Exams 1 and 2 Final Exam

**Instruction method:**

There will be 2.5 contact hours of classroom lecture per week. Projects covering major topics are part of the course with lectures kept to a minimum. Content from each of the chapters will be enforced through programming projects and examinations, including a comprehensive take-home final exam. Students may work on their assignments/projects in University computing facilities or from home with an Internet connection and Visual Studio 2012 installed on their PC (or XCode on a Mac).

**Evaluation method:**

Evaluation of student's performance will be based on the quality of their performance on homework assignments (programming projects) and exams.

**Grading Policy:**

2 in-class Exams (equally weighted)	30%
Final Exam	20%
9 Programming Projects (equally weighted)	50%
Attendance	0%

**Assessment of Projects:**

The grading of all homework assignments and projects will take into account:

1. Although the most important attribute of a program is correctness, grading will take into consideration such items as time and coding efficiency, **documentation**, etc.
2. Programs must have proper inline documentation and must be properly indented. Up to 20% will be deducted for poorly documented and/or poorly indented code.
3. All submitted code must compile to receive at least partial credit. Code that does not compile will receive 0 credit, **NO EXCEPTIONS**. This means you must debug your code before submitting.
4. When a method name and/or parameters are specified in an assignment's description, you must use that name and/or parameters and ensure the function works for all possible inputs (test!!).
5. Although interactions with other students are encouraged, you **must** compose your own answers, unless otherwise noted.

Individuals who utilize other people's thoughts or ideas must provide appropriate references to said resources, including any and all web resources consulted. Failure to provide such documentation will result in a failing grade for the assignment, and may result in a failing grade for the course.

Final letter grades are determined based on the following grading scale:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
Below 60	F

The instructor reserves the right to change these values depending on the overall class performance and/or extenuating circumstances.

#### **Policy Statement:**

##### *My Academic Dishonesty Policy*

Academic Dishonesty is defined as any act of a dishonorable nature which gives the student engaged in it an unfair advantage over others engaged in the same or similar course of study and which, if known to the classroom instructor in such course of study, would be prohibited. Academic Dishonesty will not be tolerated as these actions are fundamentally opposed to "assuring the integrity of the curriculum through the maintenance of rigorous standards and high expectations for student learning and performance" as described in Marshall University's Statement of Philosophy.

If you are found cheating on projects or plagiarizing answers from the Internet or other sources (among other things), there will be no second chance. Your penalty is that you will receive a failing grade for the course. In those cases in which the offense is particularly flagrant or where there are other aggravating circumstances, additional, non-academic, sanctions may be pursued through the Office of Judicial Affairs. Notice of an act of academic dishonesty will be reported to the Department Chair, Dean of the College of Science, and to the Office of Academic Affairs. Please refer to the Marshall University Undergraduate Catalog for a full definition of academic dishonesty.

**Assignments:** The course includes a number of assignments/projects. All assignments are due **BY THE BEGINNING OF CLASS** on their due date and must be submitted through the Blackboard Assignments tool. **NO LATE ASSIGNMENTS WILL BE ACCEPTED.** Please do not procrastinate in working on your assignments or

trying to submit at the last second through Blackboard as many others have done in the past. If you wait until the last night to start on the project or the last minute to try to submit, most likely, you will fail.

*Exams:* There are THREE exams worth 50% of your overall grade. The first will come after Chapter 5, the second after Chapter 10, and a comprehensive Final exam (as scheduled). Exact dates and times of exams will be announced in class.

*Make-up Exams and Late Penalty:* Make-up exams will not be given, except under unusual circumstances and with satisfactory written justification. Any student who misses an exam due to an unexcused absence will receive a grade of 0 for that exam with no opportunity for make-up or substitution. University excused absences or those occurring with a good reason (and that reason must be given prior to missing the exam—call and leave a message if you have to) will be excused. Make-up exams must be taken within one week of the original scheduled date. The decision whether to give a make-up exam rests with the instructor.

**Attendance Statement:**

As with previous semesters, I am NOT making class attendance mandatory. However, I will keep a record of who is attending and who is not. **If you miss class**, it is your responsibility to catch up on material missed, and it will **not** be the responsibility of the instructor to catch you up on material missed during office hours, or re-lecture to you.

**Withdrawal Policy:**

The University withdrawal policy is followed in this course. The last day to drop an individual course for the Spring Semester is March 27, 2015.

**University Holidays:**

The class is officially dismissed on the following dates:

Spring Break	March 17, 2015
	March 19, 2015

**Topics and Methodology:**

The following outline delineates the tentative class schedule with topics to be addressed during the course. Please note this is a tentative schedule and it may change upon class progress:

January 13	Overview of course and syllabus, introduction to Blackboard, how to create a C++ project in Visual Studio Professional 2012
January 15	Chapter 1
January 20	Chapter 2
January 22	Chapter 2
January 27	Chapter 2
January 29	Chapter 2
February 3	Chapter 3
February 5	Chapter 3
	Project 1 Due
	Chapter 2, Page 121, Programming Exercise #19
	Chapter 2, Page 122, Programming Exercise #25

February 10	Chapter 3
February 12	Chapter 4
February 17	Chapter 4 Project 2 Due Chapter 3, Page 183, Programming Exercise #5 Chapter 3, Page 183, Programming Exercise #6
February 19	Chapter 4
February 24	Chapter 5
February 26	Chapter 5 Project 3 Due Chapter 4, Page 257, Programming Exercise #7 Chapter 4, Page 260, Programming Exercise #17
March 3	Tomato/Review for Exam 1 Project 4 Due Chapter 5, Page 340, Programming Exercise #12 Chapter 5, Page 340, Programming Exercise #13
March 5	Exam 1
March 10	Chapter 6
March 12	Chapter 6
March 24	Chapter 6
March 26	Chapter 7
March 31	Chapter 8 Project 5 Due <b>All assignments from this point forward *MUST* use functions</b> Chapter 6, Pages 453-454, Programming Exercise #8 Chapter 6, Pages 455-456, Programming Exercise #14
April 2	Chapter 8
April 7	Chapter 9 Project 6 Due Chapter 7, Pages 517-518, Programming Exercise #7 Chapter 7, Page 518, Programming Exercise #9
April 9	Chapter 9
April 14	Chapter 9 Exam 2 Review Project 7 Due Chapter 8, Page 602, Programming Exercise #4 Chapter 8, Page 603, Programming Exercise #7
April 16	Chapter 10
April 21	Chapter 10 Project 8 Due Chapter 9, Page 647, Programming Exercise #5 (will need to read and perhaps complete exercises 3 and 4 first) <b>HINT:</b> You may modify the composition of the struct initially mentioned in Exercise 3
April 23	Chapter 10

April 28	Exam 2
April 30	Q/A Project 9 Due Chapter 10, Pages 730-731, Programming Exercise #4 Receive Take Home Final
May 5	Final Exam Due 8:00 am

For each topic discussed in the textbook, specific experiences of other students and the instructor will be discussed to enhance the content being covered. Hands-on projects for the course will be based on either real-world or fictitious requirements/needs. Additional material may also be covered in the class.

Every student is responsible for all material presented in class, including lectures, notes, and handouts. In the case you are not present for a class session, it is your responsibility to contact the instructor and receive information about the material presented in that class. Class attendance is very important.

#### **Effort Required:**

As a 100-level course, this course is provided as an introductory course, but there will still be a considerable amount of development and research effort required of the student. For every one hour in class, you are expected to put in an effort of at least 3 hours outside the class for studying and programming. Because of background and preparedness, some students may have to put in additional effort. **PLEASE DO NOT PROCRASTINATE.** Procrastination and the placing of blame on other factors than yourself have become very large problems in my classes, and is often a bad approach to life. Prioritize, schedule, and take responsibility for your actions and you should do very well in this class.

#### **Communication:**

The Discussion Tool within Blackboard and your MU E-mail Account will be used to make any general announcements, last minute changes, etc. It is **advised** that you monitor your Blackboard course and E-mails at least once a day.

#### **Note about cell phones in class:**

In compliance with Marshall University's cell phone policy, please set your cell phone ringer to "Vibrate Only" mode (or turn it off) before you enter the classroom. If I hear it ring in class, or vibrate excessively on your desktop, I get to answer it -> no exceptions.