CPS171 Syllabus for Winter 2015
(Introduction to Programming with C++)

Wednesday 5:30pm – 9:25pm - TI 241 (CRN: 11540)
Instructor: Victor R. Volkman
E-Mail: volkman@wccnet.org
Mail box: BE 200 (Do NOT use to turn in assignments outside of class)
Office Hours: None
Credits: 4 hours
Prerequisites: Computer literacy and Math 169 – see below for remarks about CPS 120.
Proficiency in word processing skills is recommended. Students are strongly encouraged to become proficient in keyboarding at the level accomplished in BOS 101A.
Open Lab: Computer Commons (2nd Floor Gunder Myran Building)
http://www.wccnet.edu/resources/computercommons/

GETTING HELP
In-class Labs: designed to build skills required for Machine Problems
Study Group: to be announced week #2 via Learning Support Services (see "IT Study Group")
http://departments.wccnet.edu/learningsupport/tutoring-schedules/
Lecture Videos: From Blackboard, click on Learning Units, then click on the "camera" icons in the tree
(special video intro for Linux users)
Email instructor: best effort to reply in 48 hours (not guaranteed)

CATALOG COURSE DESCRIPTION
This is an introduction to programming using the C++ language. Students should have basic experience using a computer but no prior programming is required. Students learn about problem solving strategies, top-down program development and programming style. Topics include sequential, decision and iterative control structures, functions, basic data structures and an introduction to classes. Students write and execute approximately eight C++ programs..

REQUIRED TEXT
C++ Programming: From Problem Analysis to Program Design (Edition: *4th, 5th, 6th, ...*)
Author: D.S.Malik, Publisher: Course Technology
Book can be obtained at the WCC Bookstore in the Student Center Building, WCC Bookstore online, **or at** Campus Book and Supply, 1078 N. Huron River Drive, Ypsilanti (485-2369)

ADDITIONAL REQUIREMENT: USB storage device - any size will do. ALWAYS bring one.

OTHER REQUIREMENTS
- If you miss a class it is your responsibility to view the online lecture video the NEXT day
- No late Homework will be accepted and will receive an automatic ZERO.
  Homework ("Machine Problems 1 thru 6") is due at the BEGINNING of class
  In class labs are due at the END of each class.
  Turn in what you have done *for possible partial credit*. You cannot work on a past-due assignment in class
- If unforeseen problems arise, there will NOT be justification for giving extensions on work that is already overdue.
- An incomplete will only be given for emergencies that arise during the last week of the semester and will not be given for failure to complete assignments when due or to allow a student to complete work to obtain a higher grade.
- DO NOT schedule other activities such as work, vacations, medical appointments, or job interviews during the scheduled class time.
- Class attendance is taken during each class period. It is expected that you will come prepared to contribute to the classroom activities..

RECOMMENDED SOFTWARE - Visual Studio Express 2013

Google enter "visual studio express" into the search box (yes, including the quote marks "") or use URL:
http://www.visualstudio.com/en-us/products/visual-studio-express-vs.aspx
SCROLL DOWN to the THIRD entry "Express 2013 for **Windows Desktop**"
Requires Windows 7 or Windows 8 (any version will do)

If you have Windows XP, you may be able to use Visual Studio Express 2010
http://www.visualstudio.com/en-us/downloads#d-2010-express

Do NOT use "90 Day Trial" versions as you can't just re-install them when you will need them most!

If you intend to use the WCC open lab, you do not need the software.

COURSE OBJECTIVES

Objective #1. The student will identify the hardware components of a computer and will describe how they act together to form a complete system including the scientific principles on which they are based.
Objective #2. The student will edit, compile, execute and get hard copy of a simple program.
Objective #3. The student will use sound software engineering techniques in C++.
Objective #4. The student will use good documentation, formatting and naming conventions to insure program readability.
Objective #5. The student will identify and describe the ethics and legal issues concerning computer use, including privacy of information and copyright of software.
Objective #6. The student will describe the effects of technology on the individual as well as on society and the environment as a whole.
Objective #7. The student will write a program using the C++ arithmetic operators, input/output methods and appropriate manipulators for formatting.
Objective #8. The student will write a program using appropriate selection statements such as if-else and switch.
Objective #9. The student will write a program using appropriate looping statements such as while, for and do-while.
Objective #10. The student will write a program using functions with parameters passed by value and by reference.
Objective #11 The student will use both one dimensional and multi-dimensional arrays.
Objective #12. The student will describe different sorting and searching algorithms.
Objective #13. The student will use character data and string processing.
Objective #14. The student will use structs in a program.
Objective #15 The student will use classes with data, member functions and constructors

GRADING CRITERIA

Machine Problems will account for 40% of the grade, labs and other exercises will be 10%, and the remaining 50% will be based on the 2 Tests and the Final. YOU MUST GET A SCORE OF 50% OR BETTER ON THE FINAL TO PASS THE COURSE. Late assignments will be penalized.
Grades will be assigned using the following numeric scale (no rounding up will be done):
A = 92 - 100%, A- = 90 - 91.9%
B+ = 88 - 89.9% B = 82 - 87.9% B- = 80 - 81.9%
C+ = 78 - 79.9% C = 72 - 77.9% C- = 70 - 71.9%
D = 60 - 69.9%

Fluency in programming cannot be attained by simply reading and studying; you must practice the skills by designing, writing and debugging computer programs on your own. You may get help by coming to my office hours or by emailing me – but there may be some days when I am out of town or do not check my

email so do not expect immediate help this way. My concept of helping you with machine problems is that I will help you learn to debug programs, but I will not debug them for you. Therefore, when you seek help, you should already have some idea about the nature of the program bugs. A hard copy of your code can also speed up the process for me.

TESTING

Tests will be open book, open notes, including copies of programs that you have written for this class. Using copies of tests given for any C++ course at WCC at any previous time will be considered cheating. If you must miss a test for any reason, you **must** notify me in advance, otherwise no makeup will be available

ACADEMIC INTEGRITY

It is always suspect to have machine problem scores significantly higher than your test scores! This usually indicates that you are getting too much help in writing the machine problems. The basic rule is that you may not give or receive assistance for any work that you are submitting as your own.
Some examples of cheating:
1. having someone else write your program (in whole or in part),
2. copying a program someone else wrote (in whole or in part),
3. collaborating with someone else to the extent that the programs are identifiably similar (in whole or in part).

What is not cheating? (a few examples)
1. talking to someone in general about topics and concepts involved
2. asking someone for help with a specific error message from the compiler
3. getting help with the specifics of C++ syntax
4. using information from the program writeup e.g. copying text describing the problem for your comments.

You should also be familiar with the contents of the Student Rights and Responsibilities booklet available at the registration area in the Student Center Building.

Designing programs is often time consuming. Most students find that they spend 10-15 hours per week on this course. If you are having difficulty designing a program please see me for additional help. It is most helpful if I can monitor any trouble areas that seem common to several students so that additional class time might be spent clearing the confusion. You should expect to make several revisions/runs of a program assignment over several days before it is working to your (and my) satisfaction. Do not wait to the last day to start designing your machine problems!

If you decide within the first few weeks of the course that CPS 171 is too difficult for you, please consider changing to CPS 120 Introduction to Computer Science. This course will give you an overview of Computer Science with a small amount of programming and may make it easier for you to do CPS 171 in a future term. There is a 10 week section of CPS 120 that starts on Feb 19, 2015. Ask a Student Advisor about "level change" to see if you can do it without fees.

Class attendance is taken during each class period. It is expected that you will come prepared to contribute to the classroom activities. We will sometimes do group activities, such as design programs, together in class and active participation by each individual helps make the class more interesting for each person.

Faculty Withdrawal:
If a student is missing excessive classes or is danger of failing based on class performance the instructor may send an Early Academic Alert Letter identifying the academic concern. If corrective action is not

taken in response to this letter, the instructor may drop the student at midterm. This will result in the student receiving a "W" for the course on their transcript.

Challenging a Grade:
If you wish to challenge a grade you have received please submit a written request via email identifying the exam, quiz, or homework assignment in question within few days of the posting of the grade. To maximize course time for lecture, grade challenges will not be discussed during the regular hours of the course.

Changes to Class Schedule and Class Cancellations:
If the instructor is unable to make a class for some unforeseen reason you will be sent an email to your WCC email account and a substitute will give the class instead. If class is cancelled due to snow or some other contingency you will need to check the WCC website or as recommended sign up for WCC Alert and you will receive an email and/or text message from the college. For these reasons please check your WCC email account, I suggest once a day.

Computer Work in Class:
Please restrict your use of the computers in our classroom to class activities.

Student Conduct In Class Policy
Any acts of classroom disruption that go beyond the normal rights of students to question and discuss with instructors the educational process relative to subject content will not be tolerated, in accordance with the Academic Code of Conduct described in the Student Handbook.

Children In Class Policy
Only in extreme cases are children allowed in classroom or laboratory facilities, and then only with approval of the instructor prior to class.

Electronic Devices In Class Policy
Cellular phones, pagers, CD players, radios, and similar devices are prohibited in the classroom and laboratory facilities. Calculators and computers are prohibited during examinations and quizzes, unless specified. Reasonable laptop-size computers may be used in lecture for the purpose of taking notes.

Pregnant Students
Pregnant students should contact the Ombudsman office (ombudsman@wccnet.edu) if they encounter medical situations that are impacting their class.
Pregnant students should contact Learning Support Services to discuss accommodations, if needed, during their pregnancy.

Safety & Security Update

- Your safety and security is important to us. Here are some important safety tips for the upcoming semester. Also watch your WCC email for safety tips throughout the semester.
- Emergency Notification Service: We encourage you to sign up for the Emergency Notification Service in MyWCC. You will receive timely notifications if the College is closed due to weather or other emergency.
- Fire: If there is a fire or other reason a building needs to be evacuated, the fire alarm will ring. Exit the building using the nearest stairway. Do not use elevators. Make sure you stay at least 150 feet from the building until the all clear signal is given.
- Tornado: If a tornado warning is issued for the WCC campus area, the tornado siren will activate outside and an emergency message will broadcast throughout campus. Please seek shelter in the closest room/area designated as a tornado shelter. If you are unable to find a marked tornado shelter, seek shelter in an inner hallway or restroom, away from exterior windows.
- Property Security: Do not leave laptop computers, smart phones, tablets or other valuables unattended. If parking on campus, roll up your windows, lock your doors and keep personal belongings out of sight.

- Call Campus Safety (734-973-3411 or 3411 from a College house phone) to report any suspicious activity or safety concern.

No Classes
WCC does not hold classes on these dates during Winter semester:
No class Monday, January 19th, MLK day
No class Monday-Saturday, February 23rd – February 28th, Spring break

Important Deadlines

15-Week Sessions starting week of 1/12/2015 until 05/04/2015
Deadline to drop: January 23rd, 2015
Last day to adjust schedule with Instructor permission OR change credit or audit status: January 28th, 2015

Parking:
Due to a very large influx of new students parking will be problematic this term. WCC has numerous parking lots, and all parking on campus is free. The first couple of weeks of each semester, you have to get to WCC very early to get a good parking spot.