# COP 3223C – Honors Introduction to C Programming

**Semester:** Spring 2016
**Instructor:** Dr. A. J. Gonzalez
**Office Number:** HEC 329
**Telephone Number:** 407-823-5027
**E-mail Address:** Avelino.gonzalez@ucf.edu
**Office Hours**: MW 10:30 to 11:30 AM
1:00 to 4:00 PM**.**
F by appointment only
Tu/Th - Not available (off-campus research time)

**Course Description** (official catalog description)**:** Programming in C including arrays, pointer manipulation and use of standard C math and IO libraries.

(My description): COP 3223 provides an introduction to the C programming language for those with *no prior programming experience*. The course aims to teach the syntax and use of major constructs of the C language. It does not cover algorithmic design (COP 3502 and 3503 do that). These constructs include: conditional statements, loops, functions, arrays, pointers, strings, structures, file I/O and dynamic memory allocation. The course heavily emphasizes hands-on programming

**Pre-requisites:** Intelligence and willingness to work hard.

**Course Textbook:** C Knights: An Introduction to Programming in C by Guha, ISBN-13: 978-0-558-85807-0.

This book is a custom textbook specifically written for the course that we teach at UCF. The goal in writing this book was to bring the cost down for students and also to provide a book that mirrored how the course is taught. The two previous versions of this same textbook will be adequate for the course.

**Grading:** There will be seven programming assignments of varying levels of difficulty throughout the semester. Each will be worth 5% of final grade. Theree exams will be given spaced about five to six weeks apart, with the thirdone being on Final Exam day. The exam with the lowest grade will be automatically dropped. Attendace and participation at a the accompanying laboratory is required. The relative worth of these assessment instruments is as follows:

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| Homework assignment projects: | **35%** | |
| Exam #1 (circa Valentine's Day): | **25%** | The highest two of these will count for a total of **50%** of final grade |
| Exam #2 (circa post Spring Break): | **25%** | |
| Exam #3 (on final exam day): | **25%** | |
| Laboratory Excercises: | **15%** | |

**Grading Scale**: The final course grade will be determined in accordance with how many *semester points* have been accumulated throughout the term. One semester point is equal to 1% of the final grade. The following scale will determine the corresponding letter grade. However, the final grade may never be higher than the highest grade achieved in the exams (but it could be lower, of course). Students should expect no deviations from this scale. There will be no curves, so don't even ask.

90 to 100 → A
80 to 89.9 → B
70 to 79.9 → C
60 to 69.9 → D
< 60 → F

Designations of + and – are at the discretion of the nstructor.

**Laboratory Sections:** There will be mandatory laboratory sections to which all students should have registered. A PhD student TA will conduct the weekly lab sessions and simple exrcises will be given to be done during the lab session. Attendance and participation in the laboratory section **are mandatory** and will count towards final grade as discussed above.

**Programming Environment and Compiler:** The student should download Code::Blocks from the internet. It can be downloaded from the Code::Blocks website: http://www.codeblocks.org/. Code::Blocks will serve as the Integrated Development Environment (IDE) for writing, compiling and running your programs. It should be installed in your laptop if you have one. It will also be available in HEC 308.

**Course website**: http://www.cs.ucf.edu/courses/cop3223/sp2016/. In this site you will find instructions on how to download Code::Blocks as well as the tutor schedule (see item below). The site will be updated soon.

**Tutoring help**: Tutoring help will be available from several sources: 1) Teaching assistants will be designated specifically for this course. Their schedule and location will be announced in the course website above soon. They are specifically there to help the student with her/his programs, including help with the homework assignments. 2) General tutoring help is available from SARC at EN I-281. This help will be of a general nature and will not specifically address the homework assignments. The name and contact informnation of the SARC tutor assigned to our class will be given soon. 3) Supplemental Instruction services (SIS). Regular help sessions will be announced for this very valuable form of assistance. The SIS tutor and his/her meeting times will be announced as soon as it is known. 4)Computing lab attendants can sometimes provide some help in debugging programs, but that is not their primary function.

**Schedule**: A calendar is posted in the Webcourses site. Events poted on the Calendar should be considered equivelant to being announced in class. Therefore, please refer to it regularly for new information.

## Class Policy

1) **Class attendance** is highly encouraged but not mandatory. However, a student is responsible for what is said in class, whether he/she is there or not. If absent, the student is responsible for obtaining the notes of what was discussed in from classmates, and **not** from the instructor. There are such things as "excused absences".
2) **Incomplete grades** will NOT be given except for the direst of documentable circumstances, such as very serious medical problems.
3) **Homework assignments** are due by 3:00 PM on which they are due. Late assignments will be accepted up to the due date of the last assignment in the semester, but with a 50% penalty. No exceptions!
4) **Homeworks assignments** are to be individual assignments done personally by the student. No collaboration is allowed. Evidence of collaboration will be penalized with a zero credit for all parties involved and referral of the case to the Office of Student Conduct.
5) **Makeup exams** are only given in the most direst of documentable circumstances. If you are unable to be present during an exam for (a highly!) justifiable reason, arrangements for makeups must be made in advance. Otherwise, a grade of 0 will be given for that exam. No post makeups will be given for any reason.
6) **Canvas:** A site in Webcourses in Canvas has been set up for the class. All assignments and notes will be posted there.
7) **Email:** Matters related to the course will be handled strictly through the Canvas/Webcourses email facility only. Do not use the instructor's main UCF email address unless it is for non-class related questions or comments. All communications from the instructor to the students via email will be considered part of the class proceedings.
8) **Expectations:**

I will expect the following from the students:

- Keep up with the class at all timesduring the semester.
- Be on time for class (9:30 AM, not 9:32).
- Be resourceful
- Present their work professionally
- Be innovative and creative, but within the constraints of the class

The students can expect the following from me:

- Professional treatment
- Prompt attention to your class-related problems/difficulties
- Availability during office hours or other times by appointment
- Prompt response to your emails
- Prompt return of graded tests and assignments

## Topics:

The topics will closely follow the Guha book, but the main text will be the PowerPoint notes.

| Week/Dates | Topics Covered | Readings/Assignments |
|---|---|---|
| Week 1<br>(01/11 - 01/15) | Course Overview<br>Introduction to Programming in C | Slide Package #1 |
| Week 2<br>(01/18 - 01/22) | Basic Program Structure<br>Pre-processor Directives<br>Basic I/O functions | Slide Package #1<br>**HW # 1 assigned** |
| Week 3<br>(01/25 - 01/29) | Variables, constants, operators<br>Sequential structures | Slide Package #2<br>Slide Package #3 |
| Week 4<br>(02/01 - 02/05) | Conditional and repetitive structures | Slide Package #3<br>**HW #2 assigned** |
| Week 5<br>(02/08 - 02/12) | User-defined functions | Slide Package #4 |
| Week 6<br>(02/15 - 02/19) | Exam review<br>**EXAM #1** | **HW #3 assigned** |
| Week 7<br>(02/22 - 02/26) | Pointers | Slide Package #5 |
| Week 8<br>(02/29 - 03/04) | Pointers<br>Arrays and Structures | Slide Package #5<br>Slide Package #6<br>**HW #4 assigned** |
| Week 9<br>(03/07 - 03/11) | *** Spring Break – no class *** | Beachtime! |
| Week 10<br>(03/14 - 03/18) | Arrays and Structures<br>Exam Review | Slide Package #6<br>Slide Package #7<br>Slide Package #8 |
| Week 11<br>(03/21 - 03/25) | **EXAM #2**<br>Dynamically-allocated memory<br>Linked lists | Slide Package #9<br>Slide Package #10<br>**HW #5 assigned** |
| Week 12<br>(03/28 - 04/01) | Linked Lists<br>Multiple File Programs | Slide Package #10<br>Slide Package #11 |
| Week 13<br>(04/04 - 04/08) | Stacks and Queues | Slide Package #12<br>**HW #6 assigned** |
| Week 14<br>(04/11 - 04/15) | Searching and Sorting | Slide Package #13<br>**HW #7 assigned** |
| Week 15<br>(04/18 - 04/22) | Searching and Sorting | Slide Package #13 |

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| Week 16<br>(04/25) | Exam #3 Review<br>All HW assignments due at 3:00 PM | |
| Week 17<br>(04/29) | **Exam #3** | Scheduled time for final exam is Friday April 29, 7:00 AM to 9:50 AM. |