C Programming (CSCI-1230-501); Asynchronous

Instructor: Jae Tyler / jaetyler@unm.edu
Office Room Number: Online

Instructor's Phone: 678-322-8016 (leave voicemail)
Office Hours: By Appointment

Goals: The objective of the course is an understanding of the relationship between computing and problem solving. We will be using Python to solve engineering and math problems. The high-level language is Python; the student will learn the basic syntax and rules of Python and will practice it extensively during the term. If you have no previous programming experience, this is the course for you.

Textbook

The textbook is Steve Oualline's *Practical C Programming: Why Does 2+2 = 5986? (Nutshell Handbooks)*. ISBN: 9781565923065.

Why C Programming for Data Organization?

C programming language is a cornerstone in the field of computer science, known for its efficiency and control over system resources. Here are several reasons why C is an excellent choice for studying data organization:

1. Low-level Manipulation: C provides near-hardware level control, allowing precise manipulation of data storage and memory, which is essential for understanding how data is organized and managed in computing systems.

2. Efficiency and Speed: C is synonymous with performance. Its ability to produce fast executables and efficient manipulation of system resources makes it ideal for demonstrating the impact of different data organization strategies on program performance.

3. Pointer Arithmetic: C's use of pointers is fundamental in understanding how data is accessed and manipulated in memory. This makes it an excellent tool for exploring linked structures, memory management techniques, and the use of indices.

4. Wide Applicability: Knowledge of C programming and data organization principles is crucial in many areas of computer science, from operating systems to embedded systems, enhancing students' career readiness in various tech domains.

5. Control over Memory Hierarchy: C allows students to experience firsthand the challenges and strategies related to managing cache, RAM, and disk storage, which are critical for optimizing program performance.

6. Rich Learning Resources: Despite its steep learning curve, C is supported by an extensive array of learning materials and community forums, which provide valuable support for students navigating through complex concepts.

7. Foundation for Advanced Studies: Mastery in C lays a solid foundation for further studies in more complex and specialized areas such as systems programming, operating systems, and more.

8. Global Relevance: The skills acquired in this course are globally relevant, equipping students with the competencies needed to tackle performance-critical applications and system-level programming across various platforms and industries.

In summary, the C programming language's capabilities in low-level manipulation, efficiency, pointer arithmetic, and control over memory hierarchy make it an exceptional choice for exploring the intricacies of data organization. This course not only enhances technical proficiency but also prepares students for advanced computational challenges in their future careers.

Important Dates:

- **Semester Length:** 17 Aug – 12 Dec
- **Last Day to Drop without "W":** 4 Sept, 5:00 PM Deadline
- **Break & Holidays:**
    - **Labor Day:** 7 September
    - **Fall Break:** 26-27 November

ATTENDANCE POLICY: Online, submit assignments on time.

Academic Integrity:
Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment.

Here is the link to the UNM Academic Dishonesty Policy: https://policy.unm.edu/regents-policies/section-4/4-8.html. The policy states: Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary

action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic Dishonesty is defined as:
"Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

LIBRARY USAGE: Be sure to always check out the library if you feel you need additional reading materials. They are open to any order suggestions you may have.

STUDENTS WITH DISABILITIES: If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodation. I will then discuss accommodation with you to determine the best learning environment. If you feel that you need accommodation, but have not documented your disability, please contact Jeanne Lujan, the coordinator for Equal Access Services at 925-8910.

EQUAL OPPORTUNITY AND NON-DISCRIMINATION
In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see page 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html.

EMAIL: Be sure to check your contact information in Banner and keep it updated. UNM email as our official form of course communication. When communicating with your instructor, always include class name in the subject header.

When emailing me, in the subject of your email, please write down your course name, course number, and section number. For example, the subject of your email to me should be: **CSCI 1230-501**

You must only contact me with your UNM e-mail. Check your UNM email frequently. You are responsible for missing any announcement I send via email or posted on Canvas.

Failure to identify your message with the class number and not using your UNM email will result in no response at all.

Instructor Response Time:

- The best way of contacting me will be via email (with proper subject mentioned Above).
- In all cases please, be patient and give me 24 hours to 48 hours to reach back to you.
- I will be available via email during the weekday.
- I may not be able to respond to any email on Saturday and Sunday.

Important Links:

Disabilities Policy: Office of Equal Access:

Contact the Office of Equal Access at 925-8560 to schedule an appointment.
https://valencia.unm.edu/students/advisement/equal-access-faqs.html

The Center for Academic Learning:

The Learning Center is open Monday – Friday with evening hours Monday – Thursday

To schedule an appointment or for additional information call (505)-925-8907
https://valencia.unm.edu/campus-resources/learning-commons/index.html

UNM Valencia Registrar's Office:

Contact Registration Office by calling 925-8580 http://valencia.unm.edu

UNM Deadlines & Academic Calendar:

UNM Deadlines: Academic Calendar: https://hr.unm.edu/calendars

https://registrar.unm.edu/semester-deadline-dates/index.html