

# COURSE SYLLABUS

## General Course Information

<b>Course Number:</b>	CS 105		
<b>Course Title:</b>	Introduction to Computing		
<b>Total Credits:</b>	3 credit hours; 2 class hours + 2 lab hours per week		
<b>Class Location:</b>	SEM 234		
<b>Instructor:</b>	Michael Leverington	<b>Teaching Assistant:</b>	Ilias Apostolopoulos
<b>Office:</b>	SEM 207	<b>Office:</b>	LME 321 (Lab)
<b>Office Phone:</b>	784-1414	<b>Office Phone:</b>	n/a
<b>Office Hours:</b>	10:00-11:45 am M,W,Th or by appointment	<b>Office Hours:</b>	TBA
<b>E-Mail:</b>	In WebCampus Mail	<b>E-Mail:</b>	in WebCampus Mail
<b>Laboratory:</b>	LME 321	<b>Laboratory Phone:</b>	n/a
<b>Course Schedule:</b>	<b>Lab Schedule:</b>		
All Course Sections	12:00-12:50 pm MW	Section 001	2:00-4:00 pm W
		Section 002	2:00-4:00 pm Th
<b>First Notebook Evaluation:</b>	September 24: bring to lab on Wednesday or Thursday		
<b>Second Notebook Evaluation:</b>	October 29: bring to lab on Wednesday or Thursday		
<b>Third Notebook Evaluation:</b>	December 3: bring to lab on Wednesday or Thursday		
<b>Final Exam Date:</b>	Friday, December 11, 12:00-2:00 pm		
<b>Holidays:</b>	Monday, September 7, no class on Monday, but labs will be conducted		
	Wednesday, November 11, no class on Wednesday, no lab that week		
	Thursday, November 26, no lab that week		

**Current Catalog Description:** Introduction to essential concepts and practices in computing. Design, assemble, and operate basic computer hardware and software in a collaborative environment.

**Course Goals:**

1. Students will be provided examples of various Computer Science and Engineering (CSE) activities and learning which will result in the following:
  - 1a. Students will create operational and programming solutions to problems and specifications provided to them in both the classroom and the laboratory (ABET 3)
  - 1b. Students will interact and work with a variety of other students in the course of class activities and laboratories (ABET 4)
  - 1c. Students will discuss and resolve ethical conflicts involving engineering, science, and technology (ABET 6, CS/CIE\_PO-4)
  - 1d. Students will demonstrate effective written communication in response to questions related to knowledge, application, and implementation of Computer Science and Engineering processes (ABET 7, CS\_PO-2, CS/CIE\_PO-4)
  - 1e. Students will be exposed to contemporary issues related to Computer Science and Engineering (ABET 10, CS/CIE\_PO-4)
  - 1f. Students will conduct active hands-on interaction with hardware and software related to CSE; students will solve a variety of problems using various electronic and engineering tools (ABET 11, CS\_P0-2)
  
2. Students will be provided exposure to upper level CSE activities that go beyond the fundamental courses; exposure to, and familiarity with, the various courses available in UNR’s CSE program; and exposure to possible careers and research in CSE fields
  
3. Students will be exposed to the culture and society of CSE, and to those components of CSE that provide enjoyment, reward, and satisfaction.

**Accreditation Board for Engineering and Technology (ABET) Content/Process Goals:**

<b>Outcome</b>	<b>Description of ABET Criterion 3 Outcomes</b> [items in <b>bold face type</b> are implemented in this course]
1	an ability to apply knowledge of computing, mathematics, science, and engineering
2	an ability to design and conduct experiments, as well as to analyze and interpret data
3	<b>an ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs, within realistic constraints specific to the field</b> ----- <b>Assessment:</b> selected class and laboratory activities
4	<b>an ability to function effectively on multi-disciplinary teams</b> ----- <b>Assessment:</b> selected laboratory activities

5	an ability to analyze a problem, and identify, formulate and use the appropriate computing and engineering requirements for obtaining its solution
6	<b>an understanding of professional, ethical, legal, security and social issues and responsibilities</b> ----- <b>Assessment:</b> selected class and homework activities
7	<b>an ability to communicate effectively with a range of audiences</b> ----- <b>Assessment:</b> homework activities
8	the broad education necessary to analyze the local and global impact of computing and engineering solutions on individuals, organizations, and society
9	a recognition of the need for, and an ability to engage in continuing professional development and life-long learning
10	<b>a knowledge of contemporary issues</b> ----- <b>Assessment:</b> selected class and homework activities
11	<b>an ability to use current techniques, skills, and tools necessary for computing and engineering practice</b> ----- <b>Assessment:</b> selected laboratory activities
12	an ability to apply mathematical foundations, algorithmic principles, and computer science and engineering theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices
13	an ability to apply design and development principles in the construction of software systems and computer systems of varying complexity

**UNR Computer Science & Engineering Program Objectives:**

<b>Program Objectives</b>	<b>Description of UNR CSE Program Objectives</b> [items in <b>bold face type</b> are implemented in this course]
Our Computer Science graduates will have achieved:	
CS_PO-1	a broad general education assuring an adequate foundation in science and mathematics relevant to computing
<b>CS_PO-2</b>	<b>a solid understanding of concepts fundamental to the discipline of computer science</b>
CS_PO-3	good analytic, design, and implementation skills required to formulate and solve computing problems
<b>CS_PO-4</b>	<b>the ability to function, communicate, and continue to learn effectively as ethically and socially responsible computer science professionals</b>
Our Computer Engineering graduates will:	
CIE_PO-1	be employed as computer engineering professionals beyond entry level positions or be making satisfactory progress in graduate programs
CIE_PO-2	have peer-recognized expertise together with the ability to articulate that expertise as computer engineering professionals
CIE_PO-3	apply good analytic, design, and implementation skills required to formulate and solve computer engineering problems
<b>CIE_PO-4</b>	<b>demonstrate that they can function, communicate, collaborate and continue to learn effectively as ethically and socially responsible computer engineering professionals</b>

**Course Prerequisites:** None.

**Course Policies:***Initial Course Policies:*

1. Students are expected to attend, and be on time, for every class. This demonstrates professionalism and consideration for your fellow students and your Instructor. While the course does not have an attendance policy, students who miss class and/or are late for class may experience an impact on their grade by missing classroom activities or homework submission opportunities (see item 2).
2. Students are expected to turn in all assigned materials in a timely manner. With very few, if any exceptions\*, homework, class work, quizzes, and/or any other graded activities may not be made up, or turned in after their due date. \*See Special Circumstances below for possible exceptions.
3. Students are expected to demonstrate professionalism and courtesy by either silencing or turning off all cell phones and/or other alarm or audible indicator devices. If any device causes a disturbance in the class, a policy will be set in place immediately to respond to future problems.

4. There will be a great deal of interaction and class/group activity in this course. For that reason, students are expected to be engaged in, and focused on, the classroom discussion and/or activities. In addition, everyone involved with this class is expected to act in a professional manner, and interact with her or his peers with that same professional demeanor.
5. As future professionals, all students are expected to maintain the highest standards of integrity and honesty. All work represented as being created or generated by an individual must come from that individual only. When appropriate as part of a research activity, a student may quote or use information from other individuals, but any use of another's work must be clearly and completely documented (e.g., footnote, endnote, reference, etc). Any assigned materials represented by the student as his or her own work and found to be the work of another, and/or any other misrepresentation of fact by the student will be considered a breach of academic integrity. Under this circumstance, the Instructor will conduct the appropriate procedures specified in the UNR Student Handbook as appropriate for the given condition. ***Continuation of this course by students after this policy has been presented will be regarded as agreement by the students to abide by, and submit to, this policy and all policies and procedures specified in the UNR Student Handbook.***

*Course Policy Addition/Modification:*

1. The Instructor reserves the right to add to, and/or modify any of the above policies as needed to maintain an appropriate and effective educational atmosphere in the classroom and the laboratory. In the case that this occurs, all students will be notified in advance of implementation of the new and/or modified policy.

*Grading Policy/Process:*

With consideration for the specifications below, the grades will be calculated as follows:

<b>Weight (%)</b>	<b>Component</b>
40	Weekly Activities (assignments, in-class exercises, quizzes, etc)
30	Laboratory Activities
20	CSE Notebook
10	Final Examination and Related Activities

1. Each graded item will be scored on a simple rubric, scores will be added and normalized to a percentage, and then multiplied by the appropriate weight specified above. Letter grades are earned as follows: A: 90% and above, B: 80% and above, C: 70% and above, D: 60% and above, F: below 60%. A plus/minus (+/-) grade will only be assigned when it accurately represents a grade very near a cut off point.
2. The CSE Notebook, specified below, will be presented at least twice during the course, and before the final examination day.
3. In any event, failure of a student to attend the final examination, or failure to complete any other final evaluation components may result in the loss of all credit for the "Final Examination and Related Activities" course component.

**Textbook:** None. Course material will be provided on the appropriate media as needed.

**References and Resources:**

**NetID:** Get your NetID as soon as possible if you have not already done so; you will need this to log into WebCampus. Either go to the Information Technology Help Desk in the Getchell Library to obtain your NetID, or go to <https://www.net.unr.edu/apps/netid/activate.asp>, and follow the instructions. On line help is also available at <http://www.it.unr.edu/help/helpdesk.asp>.

**Engineering Computing Center (ECC):** There are no activities in this course that require the use of the ECC; however, the facilities are available for your use since you are enrolled in this course. You will need to go to the front desk of the ECC in SEM 231 and request a login; this can usually be done immediately, but might take a day or two depending on your registration status.

**WebCampus:** Go to <https://WebCampus6.unr.edu/>, and make sure you can log in to the system as soon as possible. We will be using WebCampus starting on the first day and throughout the semester and you will be responsible for any assignments or requirements provided in WebCampus. You should plan on checking it at least once per week day and at least once across the weekend.

**CSE Notebook:** Purchase a notebook (at least 1”, hard-cover, 3-hole binder), with a set of 10 divider tabs.

Create the dividers as follows:

0. Outside and inside cover pages (does not need a divider tab)
  - a. Outside and inside covers of the notebook *must* show your name
1. Advising Paperwork
2. Careers
3. Courses
4. People
5. Research
6. Journal, Personal Notes & Cool Stuff
7. Syllabus & Class Notes
8. Returned Assignments

There are several kinds of semester projects that can be assigned, but many of the goals for this course include learning about courses, research, people, and activities related to CSE. The goal for this notebook is for you to take something with you from this class that you can use at least for your career as a student here at UNR. Since many of you are just getting started on your University career, you can create this notebook and organize and keep information that will be important for you to access in the next few years. You are only required to keep it long enough to finish the course; however, if you do a good job with it, you will get a good grade and have a good reference for the future.

The CSE Notebook will be graded at least twice during the semester and just before the final examination period. The grading will be conducted as follows: 1) course components that have already happened will be selected in advance of the grading process; you will receive credit for each item *easily* and *readily* found in your notebook that reflects information on the specified course components; 2) Any additional items found in the CSE Notebook that demonstrate student activity beyond the requirements may be considered for additional credit.

### Major Topics Covered:

<b>Topic</b>
The Computing Machine
Making the Computer Work
History of Computers and Technology
Creating Computer Programs
Communicating between Systems
Interacting with Computers (Hardware & Software interfaces)
How Computers Think
Computers as Entities
CS&E Career and Life

### Special Circumstances:

**Disability Statement:** If you have a disability for which you will need to request accommodations, please contact the Instructor or someone at the Disability Resource Center (Thompson Student Services - 107), as soon as possible, but no later than the end of the second week of classes.

**UNR Athletes:** If you are involved with any university-sponsored athletic activities that will have an impact on your attendance, please provide the Instructor with a letter from your coach and/or the UNR Athletic Department as soon as possible, but no later than the end of the second week of classes. It is expected that you will know your travel plans in advance, so you *must* provide the Instructor at least one week's advance notice if you will be missing class for a legitimate athletic event. Due to the difficulty of re-creating class or lab activities without advance notice, it may not be possible for you to make up the activities that were missed if you do not provide advance notice.

**Illness:** If you are ill and know that you will not make it to a class and/or a laboratory, contact either the Instructor or the Teaching Assistant as appropriate as soon as possible. If we are contacted in advance of the class or laboratory, you have a better chance of making up the activity if it is possible. Note that many class activities require most or all of the class to be together, and the laboratories require equipment that may not be available after the laboratory is completed. For this reason, it may not be possible to make up some activities.

**Adaptation:** With consideration for the rules stated above, the Instructor and the Teaching Assistant reserve the right to adapt these rules *in favor of the student* if circumstances merit and permit it. While this action is strictly at the discretion of the Instructor and/or TA, it is much more likely to occur if the student demonstrates a sincere attempt to resolve the given conflict and/or seriously attempts to make up the work in a timely manner.

### **Epilogue:**

Two of the goals of this course are for you to learn about Computer Science and Engineering, and to enjoy what you are doing. Obviously, you must show up in body and spirit to achieve these goals.

One of the goals is to help you find your place in the culture and society of Computer Scientists and Engineers. To accommodate this goal, the Instructor will be actively placing you in situations where you can meet and work with several of your fellow students. This sometimes makes people uncomfortable, but the discomfort is usually short-lived. Any endeavor worthwhile requires people working together toward common goals, and in Computer Science and Engineering, it has never been possible to be successful working alone. You may come up with the next great sorting algorithm or the breakthrough microprocessor, but it will never matter if you have not learned to communicate, and work, with others. Besides, working with others and meeting new people is much more fun.

The course involves a very broad survey of the various things you can do with CSE here at UNR as well as outside the University walls. While we will not be exploring any one part of CSE in great detail, you will always have the opportunity to do so yourself. The primary role of the Instructor and Teaching Assistant is to show you what is interesting and exciting about CSE and to help you to get some ideas as to the things in CSE that interest you the most. However, if you find topics or areas of interest in CSE that you wish to pursue in greater depth, please ask her or him about it. There are an uncountable number of resources in the CSE Department, and all of them are dedicated to you and your future; we will help you find what you need.