Course Description

Instructor: Prof. Richard Chang <chang@umbc.edu>

Office Hours: Tue 2:30pm – 3:30pm, Thu 11:30am – 12:30pm (in person ITE 326)

Teaching Assistants:

Riya Revdiwala <riyasar1@umbc.edu>

Office Hours: Wed & Thu 3pm – 4pm, ITE 340

Yu Liu <yul2@umbc.edu>

Office Hours: Wed & Fri 10am – 11am, ITE 340

Course Web Page: http://umbc.edu/~chang/cs331

Time & Place.

Section 5: Tue & Thu 10:00am – 11:15am, Fine Arts 215

Section 03: Tue & Thu 1:00pm – 2:15pm, Sondheim 209

Textbooks.

Programming Languages: Principles and Practice, third edition,
Kenneth C. Louden and Kenneth A. Lambert. Cengage Learning, 2012 (ISBN: 9781111529413)

Programming in Haskell, 2nd edition, Graham Hutton.
Cambridge University Press, 2016 (ISBN: 9781316626221)

Prerequisites. Students enrolled in this class must have completed CMSC 202 Computer Science II and CMSC 203 Discrete Structures with a grade of C or higher.

Objectives. The key learning objectives for this course are:

- To understand how programming languages have and continue to evolve
- To learn about formal definition and specification of programming languages
- To learn about different programming paradigms, and gain some experience in several
- To study how programming languages are implemented

Grading. Grades will be based upon the following distribution

Reading & Lecture Quizzes (12)	6%
Homework (10)	30%
Midterm Exams (2)	38%
Final Exam	26%

The schedule as planned has 10 homework assignments. However, if a homework assignment is canceled and not made up, homework assignments would still be 30% of your final grade — each homework assignment would be worth more.

The final letter grade is based on the standard formula:

$$0 \le F < 60, \quad 60 \le D < 70, \quad 70 \le C < 80, \quad 80 \le B < 90, \quad 90 \le A \le 100$$

Grades will not be "curved" — that is, the percentages of A's, B's and C's are not fixed. However, depending upon the distribution of grades in the class, there may be adjustments in the students' favor, but under no circumstances will the letter grades be lower than in the standard formula.

Grades are given for work done *during* the semester; incomplete grades will only be given for medical illness or other such dire circumstances. In particular, taking a heavy course load is not a legitimate reason for requesting an incomplete.

Required Reading & Lectures. This is an in-person class. Your attendance is expected. Lectures will present topics that supplement the textbook reading. You will be responsible for the lecture content for homework and exams.

Reading and Lecture Quizzes. Each week you must complete an online quiz with questions selected from the prior week's reading and lecture. You have only one attempt to complete the quiz. Quizzes will be posted on Friday and must be completed by 11:59pm of the following Tuesday. There will be a total of 12 Reading and Lecture Quizzes. (There are no quizzes following the weeks of Midterm Exam 1 and Midterm Exam 2.) The first quiz will be due on Tuesday, February 3.

Exams. There are two midterm exams (March 12, April 23) and the final exam (May 19). See class schedule. Exams must be taken in-person. Exam topics will be chosen from the required reading, lectures and homework assignments. *You are responsible for the material in the assigned reading in the textbooks, even if it is not covered in lecture. You are responsible for the material covered in lecture, even if it is not presented in the slides.*

Homework. Written work will be submitted online in PDF. You can prepare your written work electronically or scan in handwritten sheets. If you scan in your work, please make sure that you use a good scanning app that corrects the lighting and keystoning. Both the Apple App Store and the Google Play Store have many good inexpensive scanning apps.

Programming assignments will be submitted on GL.

A significant portion of your grade for programming assignments (up to 40%) will depend on *good usage* of designated programming language features. Thus, a program that produces the correct output might still receive a very low grade if it does not demonstrate good usage of the designated features.

Late Homework. Homework assignments are due by 11:59pm on Thursdays. Unexcused late homework will be penalized as follows:

1 day late (by Friday 11:59pm)	-5%
2 days late (by Saturday 11:59pm)	-10%
3 days late (by Sunday 11:59pm)	-20%
4 days late (by Monday 11:59pm)	-40%
5 days late (by Tuesday 11:59pm)	-100%

Late homework will not be accepted after 5 days.

Three times during the semester, you will be allowed to submit a late homework assignment without excuse and without penalty one lecture late (e.g., homework due on Thursday may be submitted on Tuesday without penalty). One full-credit unexcused late assignment will be accepted for Homework 1-4, one for Homework 5-7 and another for Homework 8-10. You do not accrue any credit for submitting homework assignments on time. For example, if you submitted all of Homework 1-7 on time, you can still only turn in one of Homework 8-10 late for full credit.

Homework Policy. You are allowed to discuss the homework assignments including the programming portions with other students verbally. However, you should *never* look at another student's code. Homework should be written up *independently*. In cases of copying, the minimum penalty for all students involved is a reduction of the grade for the entire homework assignment to zero. *All cases of academic misconduct will be reported to the UMBC Academic Conduct Committee.* This is not a threat, it is simply a matter of procedure.

The UMBC academic integrity policy is available at: <https://tinyurl.com/yd26tx2d>

University Policies and Resources. UMBC Policies on Accessibility & Disability Accommodations; Sexual Assault, Sexual Harassment, Gender Based Violence & Discrimination; Pregnancy and Parenting; Religious Observances & Accommodations; and Hate, Bias Discrimination & Harassment are described at the Office of Equity & Inclusion's website.

Spring 2026 CMSC 331 Principles of Programming Languages, Sections 03&5, Class Schedule

		PL Topics	Louden & Lambert	Haskell Topics	Hutton	HW Assign	HW Due
1	**Tue Jan 27**	Introduction + History of PL	1.1 - 1.6				
2	**Thu Jan 29**	PL Design Criteria	2.1-2.7	Intro to Haskell	1.1-1.4, 2.1-2.5	HW1	
3	**Tue Feb 03**	Functional Progamming	3.1-3.6	Lists, tuples and functions	3.1-3.9		
4	**Thu Feb 05**	Logic Programming	4.1-4.5	Haskell functions	4.1-4.3	HW2	HW1
5	**Tue Feb 10**	Object-oriented Programming	5.1-5.6	Haskell functions	4.4-4.6		
6	**Thu Feb 12**	Syntax & Regular Expressions	6.1	List comprehensions	5.1-5.6	HW3	HW2
7	**Tue Feb 17**	Syntax & Context-free Grammars	6.2	Recursion	6.1-6.2		
8	**Thu Feb 19**	Parse Trees	6.3-6.5	Recursion	6.3-6.6	HW4	HW3
9	**Tue Feb 24**	Parsing Techniques	6.6-6.7	Higher-order functions	7.1-7.7		
10	**Thu Feb 26**	Parsing Techniques		Types and classes	8.1-8.3	HW5	HW4
11	**Tue Mar 03**	Parsing Techniques		Types and classes	8.4-8.6		
12	**Thu Mar 05**	Automata Theory					HW5
13	**Tue Mar 10**	Midterm 1 Review					
14	**Thu Mar 12**	***Midterm Exam 1***					
	Tue Mar 17	***Spring Break***					
	Thu Mar 19						
15	**Tue Mar 24**	Basic Semantics: Binding	7.1-7.3	Haskell Input & Output	10.1-10.5		
16	**Thu Mar 26**	Basic Semantics: Scope	7.4-7.8	Monads	12.1 - 12.3	HW6	
17	**Tue Mar 31**	Data Types	8.1-8.5	Monads			
18	**Thu Apr 02**	Data Types	8.6-8.10	Monads		HW7	HW6
19	**Tue Apr 07**	Control I: Expressions & Statements	9.1-9.5				
20	**Thu Apr 09**	Control II: Procedures & Environments	10.1-10.6			HW8	HW7
21	**Tue Apr 14**	Stack Frames & Upwards Funarg					
22	**Thu Apr 16**	Abstract Data Types & Modules	11.1-11.8				HW8
23	**Tue Apr 21**	Midterm 2 Review					
24	**Thu Apr 23**	***Midterm Exam 2***				HW9	
25	**Tue Apr 28**	Formal Semantics	12.1-12.4				
26	**Thu Apr 30**	Formal Semantics	12.5			HW10	HW9
27	**Tue May 05**	Parallel Programming	13.1-13.3				
28	**Thu May 07**	TBD					HW10
29	**Tue May 12**	Final Exam Review					
	Tue May 19	**Section 5: 10:30am - 12:30pm Final Exam**					
		Section 03: 1:00pm - 3:00pm Final Exam					