**CIS336 Programming Languages**

Fall Semester 2021

CIS336 T-Th 12:50 PM – 1:30 PM

**Instructor:** Mark McKinley

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**Office** **Phone**: 260-729-7811 (this is my cell, no calls after 9pm, texting is best)

**Office Hours:** Can vary, please email for an appointment.

**Course Philosophy:**

**Study** to shew thyself approved unto God, a workman that needeth not to be ashamed, rightly dividing the word of truth. 2 Timothy 2:15

**Course Description:**

This course is designed to analyze and evaluate the important concepts in current programming languages. Emphasis is placed on the functional constructs which define all languages. Students are expected to learn several languages and write programs which illustrate their distinguishing features.

**Course Objectives:**

After taking this course, the students should be able to:

* Analyze and evaluate the important concepts in current programming languages;
* Identify functional constructs which define all languages and to provide a framework of understanding against which current and future languages may be evaluated and compared;
* Present technical material regarding programming languages through public speaking and writing;
* Better articulate his or her own programming language skills.

### Prerequisites

CIS 221 (Data Structures) and CIS 222 (Object Oriented Programming)

**MATERIALS**

**1.** Principles of Parallel Programming 11th Edition, Robert W. Sebesta, © 2016 Pearson, ISBN 978-0-13-394302-3.



**Course Structure:**

The course will consist of instruction of material, Q&A and hands-on work. There will be a quiz weekly (usually). A Midterm and Final exam will be given at the prescribed times for the class.

**Attendance:**

In keeping with the University's policy, students are expected to attend all classes. Students arriving late should enter as unobtrusively as possible. (Those habitually or excessively late may be marked as absent.) I will take attendance at every class. Those that miss more than 2 classes unexcused will lose points.

**Late work:**

Work turned in after the due date & time will receive a mark of 0 unless there are extenuating circumstances (e.g., death of a family member). This policy is meant to help the students in regards to accountability.

**Mobile Devices:**

Please silence all cell phones while in class. If I can hear it, it is not silent. No texting, gaming or tweeting is permissible during class. Violators will be asked to surrender their devices during class for the duration of the course.

**Questions, Concerns and Special Needs:**

Students are encouraged to ask questions of the instructor for clarification of any policies or class procedures at any time. Students are encouraged to notify the instructor as soon as possible if they have any special needs of which the instructor should be aware.

**Communication:**

The university gives you an official email account and I will use it when communicating with you. If I send information to that email account, you are responsible for reading it. *Failure to read your email is no excuse.* If there is an immediate need to reach the instructor use the cell number given and send a text.

**Syllabus Content**:

The instructor reserves the right to make changes to this syllabus, if deemed necessary. All changes will be provided to the students orally or in writing before the implementation of the change.

**Grading Scale:**  **Grade Weights:**

95 – 100 --- A 73 – 76 --- C Quizzes 25%

90 – 94 --- A- 70 – 72 --- C- Participation 10%

87 – 89 --- B+ 65 – 69 --- D Assignments 20%

83 – 86 --- B 60 – 64 --- D Presentation 15%

80 – 82 --- B- 0 - 59 --- F Exams 30%

77 – 79 --- C+

**Description of Assignments**

**Weekly Quizzes:** After covering a chapter or chapters in class there will be a quiz. The material covered on the quizzes will be taken directly from the classroom discussions, the laboratory discussions and assignments, and the textbook. The quizzes are to allow everyone to show that they are understanding the material presented.

**Participation:** The classroom times are meant to be interactive eliciting comments, questions, and concerns. The expectation for the course is that students will not only attend but participate in the discussions. This approach is meant to foster discussion and learning in a group environment.

**Assignments:** During the course of the semester all students will be expected to complete the work assigned to them.

**Research Project/Presentation accompanied with a paper:** Each student will make a presentation related to programming languages or complete a programming language project. Students will pick a topic related to any area of programming languages. Any topics related to the textbook, project, assignments, or class discussions are valid for the first topic. Other topics will need the approval of the instructor. Students are strongly urged to pick topics that are of interest to them.

The presentation should address the following areas:

* + - What is the challenge/problem being addressed?
    - How is the challenge relevant to programming languages?
    - Why is the challenge important?
    - Why is the challenge considered interesting to the presenters (i.e., why did you select it)?

Each student will need to write a 4 full-page paper relevant to the selected topic or programming project. The paper can reiterate the presentation or provide more in depth coverage of the programming project. As part of the grade for each write-up students need to schedule and attend a session at the Inkwell to cover areas of writing such as (but not limited to) citations, punctuation, grammar, transitions, introduction, and conclusion. 20% of the write-up grade will be deducted if proof of an Inkwell session is not included. The 3 page paper and any presentation materials should be archived (e.g., put into a .zip file) and submitted via Brightspace by the due date.

**Midterm Exam:** The midterm examination is scheduled for Thursday, Oct 14th in OH182. The midterm examination will be based on material from the classroom and lab discussions, textbook, and quizzes.

**Final Exam:** The final examination is scheduled for the week of Dec14th. The final examination will be comprehensive and cover material from both before and after the midterm. The final examination will be based on the classroom and lab discussions, labs, the textbook, and quizzes.

**Academic Honesty:**

Do not share or copy your work. You are encouraged to discuss ideas, approaches, comments, etc. but your work must be your own. You should type in all the code yourself. Do not copy and paste from another source. (You may copy and paste code that you have created for this class.) IWU does not tolerate cheating or plagiarism. Cheating is defined as the use or attempted use of unauthorized materials or receiving unauthorized assistance or communication during any academic exercise.

**Student resources and Information:**

<http://learn.indwes.edu/LearningStudio/cas-student-info.html>

**Course Outline**

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| --- | --- | --- | --- | --- |
| **Week** | **Date** | **Course Topic** | **Assignments** | **Readings** |
| Week 1 | 08/31 | No class |  |  |
| 9/02 | Intro, syllabus, Preliminaries |  |  |
| Week 2 | 9/07 | History of Computer Languages |  | Chapters One & Two |
| 9/09 |  | Quiz |  |
| Week 3 | 9/14 | Describing Syntax and Semantics |  | Chapter Three |
| 9/16 |  | Quiz |  |
| Week 4 | 9/21 | Names Bindings and Scopes |  | Chapter Five |
| 9/23 |  | Quiz |  |
| Week 5 | 9/28 | Data Types |  | Chapter Six |
| 9/30 |  | Quiz |  |
| Week 6 | 10/5 | Expressions and Assignment Statements |  | Chapter Seven |
| 10/07 | **NO CLASS** | **FALL BREAK** |  |
| Week 7 | 10/12 | **Review** | Quiz |  |
| 10/14 | **MIDTERM EXAM** |  |  |
| Week 8 | 10/19 | Statement-Level Control Structures |  | Chapter Eight |
| 10/21 |  | Quiz |  |
| Week 9 | 10/26 | Subprograms |  | Chapter Nine |
| 10/28 | Implementing Subprograms | Quiz | Chapter Ten |
| Week 10 | 11/02 | **NO CLASS** | **STUDY DAY** |  |
| 11/04 | Abstract Data Types and Encapsulation Constructs | Quiz | Chapter 11 |
| Week 11 | 11/09 | Exception Handling & Event Handling |  | Chapter 14 |
| 11/11 |  | Quiz |  |
| Week 12 | 11/16 | Functional Programming Languages |  | Chapter 15 |
| 11/18 |  | Quiz |  |
| Week 13 | 11/23 | Presentations |  |  |
| 11/25 | **Thanksgiving Day- No Class** |  |  |
| Week 14 | 11/30 | Logic Programming Languages |  | Chapter 16 |
| 12/02 | Review | Quiz |  |
| Week 15 | 12/07 | Logic Programming Languages | | |
|  | 12/09 | Review for FINAL | | |
| Week 16 | 12/15 | **FINAL EXAM @ 10:00AM** | | |

*All material posted here is subject to change.*