CS322 – Programming Languages
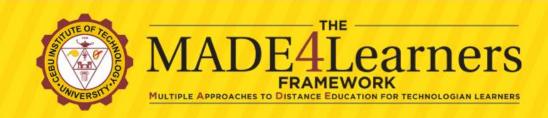
Ms. Catherine N. Arellano

Instructor
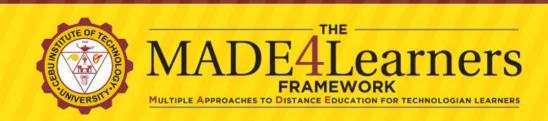
CITU VMVO

- [CIT-U VMVO Primer Video.mp4 (sharepoint.com)](sharepoint.com)

Schedule:

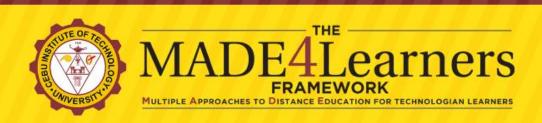Onsite: Monday and Wednesday starting February 6, 2023

Asynchronous Online: Friday, *1:30PM – 2:30PM*

Room Assignments:

Monday: *CASEROOM, 1:30PM – 3:30PM*

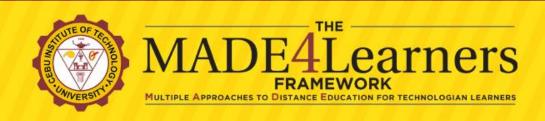*Wednesday: CASEROOM, 1:30PM – 3:30PM*

Course Introduction:

This course provides both an intensive and extensive survey of programming language concepts, by examining the design issues of the various language constructs, the design choices for these constructs in a variety of languages, and the design alternatives/tradeoffs that accompany these choices. The course will include syntax and translation, language definition structures; elementary and structured data types, abstraction mechanisms, sequence and data control, run time considerations.

Course Outcomes (COs):

- **CLO1.** Explain the importance of the course in relation to the goals and objectives of the program, the College and the University.

- **CLO2.** Compare the run-time behavior of programs written in different programming languages.

- **CLO3.** Evaluate the structure of programming language specification, analysis, and implementation.

- **CLO4.** Discuss the importance of abstraction in programming languages.

- **CLO5.** Analyze and solve programs related to lexical analysis, parsing and translation problems.
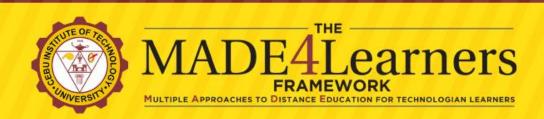
Topic 1. Overview of Programming Languages

- **ILO1.** Summarize the evolution of programming languages illustrating how this history has led to the paradigms available today.

- **ILO2.** Identify at least one distinguishing characteristic for each of the programming paradigms covered in this unit.

- **ILO3.** ILO3: Evaluate the tradeoffs between the different paradigms, considering such issues as space efficiency, time efficiency (of both the computer and the programmer), safety, and power of expression.
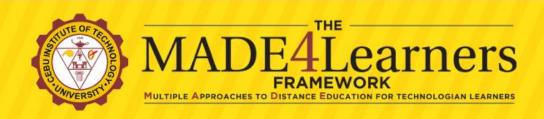
Topic 2: Introduction to Language Translation

- **ILO1:** Compare and contrast compiled and interpreted execution models, outlining the relative merits of each.

- **ILO2:** Describe the phases of program translation from source code to executable code and the files produced by these phases.

- **ILO3:** Describe syntax and semantics.

- **ILO4:** Explain the differences between machine-dependent and machine-independent translation and where these differences are evident in the translation process.
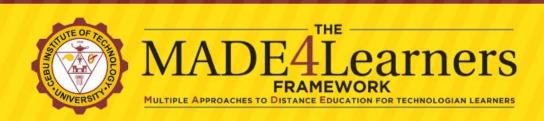
Topic 3: Language Translation Systems

- **ILO1:** Describe the steps and algorithms used by language translators.

- **ILO2:** Recognize the underlying formal models such as finite state automata, push-down automata and their connection to language definition through regular expressions and grammar.
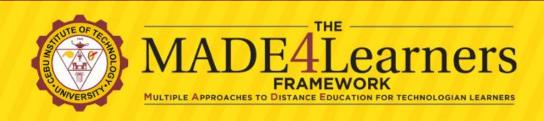
Topic 4: Reports on Different Programming Languages

ILO1. Identify the features of a reported programming languages

Grading System:

Midterm Grade:

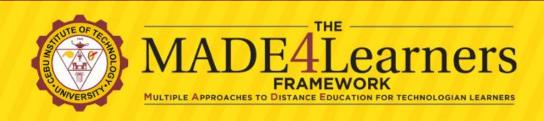**CS1**: Class Standing(quizzes, homework, seatwork)

PE: Prelim Exam

ME: Midterm Exam

MS(Midterm Score (start to midterm)) = $0.4*CS_1 + 0.2*PE + 0.4*ME$

MG (Midterm Grade) = transmuted MS

Grading System:

Final Grade:

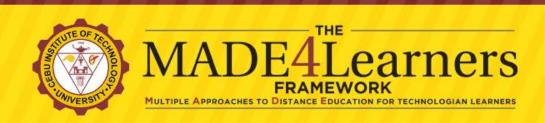**CS2**: Class Standing(quizzes, homework, reports)

Increments: Code Increments

Reporting: Chosen Language Reporting

FTS(Final term Score) = $0.3*CS_2 + 0.3*Increments + 0.4*Reporting$
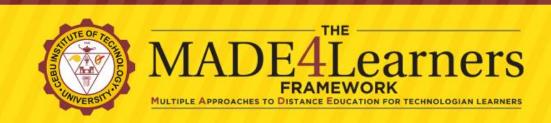
Project: Code Interpreter

Grading System:
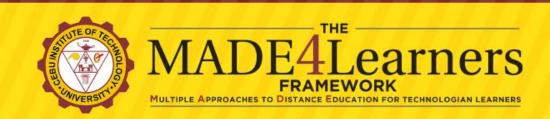
Final Grade:

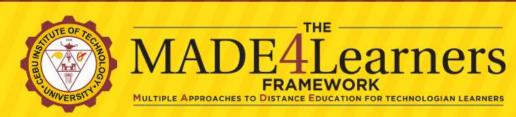**FS(**Final Score) = [(MS + FTS)/2]*0.6 + Project*0.4

Platforms

- MSTeams

School Calendar for Second Semester

SECOND SEMESTER		
Jan	1	New Year's Day
Jan	2	Special Non-Working Day
Jan	15	Feast of Sto.Niño
Jan	22	Chinese New Year
Jan	23	Classes Begin
Feb	24	Cebu Charter Day
Feb	25	Edsa Revolution Anniversary
Mar	1 & 2	University Days
Apr	6	Holy Thursday
Apr	7	Good Friday
Apr	8	Black Saturday
Apr	10	Araw ng Kagitingan
May	1	Labor Day
May	22 or 23	Parangal
May	30	Classes End
Jun	24	Commencement Rites
SCHEDULE OF EXAMINATIONS		
Feb	18,20, & 21	Prelim Examinations
Mar	21-25	Midterm Examinations
Apr	1	Deadline:Submission of Midterm Grades
Apr	27, 28, & 29	Pre-Final Examinations
May	6, 8, & 9	Advance Final Exams(prospective honors)
May	15	Deadline: Advance Final Grades
May	25-30	Final Examinations
Jun	6	Deadline: Submission of Final Grades

MADE4Learners

THE MADE4Learners FRAMEWORK

MULTIPLE APPROACHES TO DISTANCE EDUCATION FOR TECHNOLOGIAN LEARNERS

Group Report Content

1. History

2. Domain and Paradigm

3. Features
   a. data types
   b. operators
   c. data structures
   d. control structures

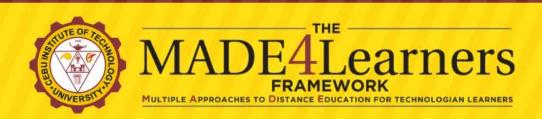4. Implement the iterative and recursive version of factorial using the chosen Programming Language compiler.

Rubrics for Report

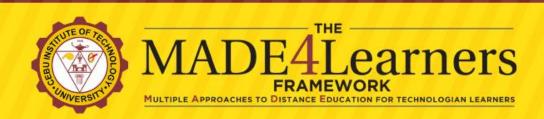|		
Visual Aid/PPT Slides	-	**10**
Punctuality	-	**5**
Time Management	-	**10**
Content	-	**20**
Delivery	-	**35**
Factorial(Iterative)	-	**10**
Factorial(Recursive)	-	**10**
		_____
Total		**100**

Guidelines for the Report

1. Engage the audience to the discussion by asking questions, etc.
2. The group should discuss the topic in not less than 20 mins and not more than 25 mins.
3. Individual report should not be less than 5 minutes and not more than 10 minutes.
4. The group must prepare a 10-item quiz.
5. Upload a copy of the Powerpoint presentation in \files\General\Class Materials\Reports\

Topics for Report

1. Ada
2. FORTRAN
3. LISP
4. ML
5. Perl
6. Postcript
7. Prolog
8. Smalltalk
9. Scheme
10. Haskell

1. COBOL
2. Pascal
3. SNOBOL
4. Ruby
5. Alice
6. Algol
7. Forth
8. BCPL
9. Simula
10. Joss