

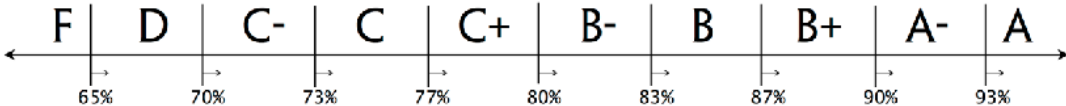
Language Study: Erlang

CMPT 333 • Fall 2021

-Background

When and where	Mondays 11AM—12:15PM and Wednesdays 9:30AM—10:45AM in HC 1021 Labs online and Fridays 8AM to 9AM.	
Suggested Text	<i>Programming Erlang by Joe Armstrong, 2nd edition - ISBN: 978-1-937785-53-6</i> https://pragprog.com/titles/jaerlang2/programming-erlang-2nd-edition/	
Web	https://www.labouseur.com/courses/erlang	
Instructor	Alan G. Labouseur Hancock 3007 (Office hours are posted.)	Alan.Labouseur@Marist.edu 845-575-3832 Marist phone 845-440-1102 home office phone

-Grading

Letter Grades				
You can earn up to 1000 points over the course of the semester, broken down as follows:	Lab 0	0.0%	0 points, but $-\infty$ if you skip it	[1, 2]
	Labs 1, 2, 3, 4	30.0%	300 points (4 at 75 points each)	[1, 2]
	Mid-term Exam	15.0%	150 points	[1, 2]
	Mid-term Project	15.0%	150 points	[1, 2]
	Final Exam	20.0%	200 points	[1, 2]
	Final Project	15.0%	150 points	[1, 2]
	Attendance and Participation	2.5%	25 points for quality and quantity	[1]
	Laziness and Whining	2.5%	25 points for not (lazy or whining)	[1]

-Objectives and Assessment

Assessment methods include assignments, quizzes, exams, discussions, presentations, peer review, and projects.	In this course, I hope that you will learn to think like a computer scientist , and...
[References] refer to Department of Computing Technology Goals available at https://www.labouseur.com/courses/goals.pdf	<ul style="list-style-type: none">• gain and demonstrate an understanding of the core concepts in parallel and distributed programming [1, 2,5];• gain and demonstrate an understanding of the techniques for developing, analyzing, and deploying functional programs and distributed programs [1, 2];• gain and demonstrate an understanding that the chasm between programs that work once and programs that work every time is ridiculously huge [1, 2];• achieve the ability to construct parallelizable functions that work together.• learn that developing functional programs is only half the battle, debugging and testing are critical skills for a talented professional [1, 2];• enhance your continuing education skills. Capable problem solvers never stop learning. You will get practice in finding answers for yourself. Additionally, preparation and presentation of the projects, as well as participation in class discussions and assignments, requires at least a little research, so there's that. [1, 2]
	Finally, some internship and job interview questions can be based on this material. I want you to be so awesome that the company hires you on the spot and sends you home with a Brinks truck full of cash and video games, including Portal 3.

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-Proposed Schedule

#	Week		Due Wed	Book	Topics and Activities
	Mon	Wed			
0	30-Aug	1-Sep	Lab 0: LaTeX Limericks	1, 2.1, 2.2-3	Introduction, Expectations, and Goals / our book and website / Installing Erlang The shell / Interactive math / Vars / Processes, Modules, and Compilation
1	6-Sep	8-Sep	—	3	<i>No class meeting on Monday — Labor Day</i> Single-assignment variables / Numbers / Atoms / Tuples / Lists / Strings
2	13-Sep	15-Sep	Lab 1: History and Environment	3 4	Functions / More Pattern Matching / Guards / Recursion with Factorial
3	20-Sep	22-Sep	—	3 4	Tests / Anonymous and named functions / map Set Operations / Sets vs. Lists
4	27-Sep	29-Sep	Lab 2: Recursive Functions	3, 4 4	Review and Revisit Recursion and List Processing Expressions for case and if / getting input / a simple “game loop”
5	4-Oct	6-Oct	—	6	Error handling and Exception processing Review for the Mid-term exam
6	11-Oct	13-Oct	Mid-term Project	—	Mid-term Exam parts 1 and 2, in our classroom One-page study sheet permitted. Some restrictions apply.
7	18-Oct	20-Oct	—	1, 11	Thoughts on the Mid-term Exam and Mid-term Project Real-world Concurrency / Concurrent Programming and Distributed Systems
8	25-Oct	27-Oct	—	12 9	Concurrent programming and lightweight processes A little bit about types
9	1-Nov	3-Nov	Lab 3: Adventure Game v1	12	More about concurrent programming
A	8-Nov	10-Nov	—	12 14	Concurrent and parallel programming Distributed Programming
B	15-Nov	17-Nov	—	14	Distributed Programming
C	22-Nov	24-Nov	Lab 4: TTT client/server	—	Catch-up, make-up, or take-a-break class / (Lab 4 due Monday the 29th.) <i>No class meeting on Wednesday — Thanksgiving break</i>
D	29-Nov	1-Dec	—	14, 22 23, 26	Distributed Programming / Programming multi-core CPUs Let it Crash : error handling and defensive programming
E	6-Dec	8-Dec	—	—	Final Exam parts 1 and 2, in our classroom One-page study sheet permitted. Some restrictions apply.
F	13-Dec @ 8am		Final Project	—	Show off and demo your final project in Hancock 2021 at 8am