



Electrical and Computer Engineering Department
ENCS3340 Artificial Intelligence, First Semester, 2022-2023

Project 1 - Department Courses Distribution

Instructor: Aziz Qaroush

Due: January 10, 2023

This assignment is for groups of 3 students each (at most). If you want to do it alone you must get the permission of the instructor.

1. Goal

This programming project can be viewed as an application of searching algorithms (local searching algorithms) in real world problems.

2. Specifications:

Developing a department courses distribution is not an easy task. It has many variables: time slots, courses, sections, student priorities, teacher priorities etc. The aim of this project is to distribute the department courses with max diversity.

The aim of this project is to use Genetic algorithm to optimize the distribution of the courses to achieve maximum diversity. The input for this project is the course browser of the current semester. Your program needs to have a reasonable interface that can easily show the distribution of the courses.

3. Submissions: Please submit the following:

1. Report:

- Describe in details your formalization of the problem.
- Write **up to** 5 pages to describe how you designed and implemented your program and list any assumptions you made for your project.
- Describe how to compile and run your program only when special directions are needed and unavoidable.
- In case you completed some extra credit items, you should describe how to enable and test them. Please, do not repeat in the report the text provided in this description.

2. **Source Code:** Include all the source code you developed or extended from the program. These need to be submitted only electronically (no hardcopies of the code). The running program needs also to be submitted electronically.

3. **Demo:** You will be asked to demo your work to your instructor. For that you need to be able to work with your program, introduce minor modifications and defend your choices.

4. Grading:

The grade will be divided according to the following issues:

1. Problem formalization and design
2. Completeness and testing
3. GUI
4. Participation and contribution to the project
5. Report
6. Discussion

Honor Policy: All are required to adhere to the University honor policy and violations will be dealt with according to university regulations.

Good Luck