

**ICOM 4036 (Programming Languages)**  
**Class Project**  
**Prof. Wilson Rivera**

In this class project students will work in teams (3-4 students) designing and developing a new application-oriented programming language.

The project will be organized and evaluated in three phases as follows:

Phase 1	Project Plan	Sep 15
Phase 2	Language Translator	Nov 15
Phase 3	Final report and demo	Final Exam Date

**Phase 1: Project Plan (15%)**

Develop a project plan document (4-5 pages) including

- Introduction (discuss motivation and reasons for developing the proposed programming language)
- Language Features
- Example of a program
- Implementation requirements and tools
- Project plan and timeline

**Phase 2: Language Translator (15%)**

Develop language and interpreter software components including

- Lexical analyzer (scanner)
- Syntax analyzer (parser)
- Intermediate Code

**Phase 3: Final report and demo (30%)**

Develop a final report and a 10 minutes group presentation. The final report must include:

- Introduction
- Language tutorial
- Language reference manual
- Language development
  - Translator architecture
  - Describe the interfaces between the modules.
  - Describe the software development environment used to create the Translator.
  - Describe the test methodology used during development.
  - Show programs used to test your translator.
- Conclusions

## **Other project requirements**

- Students will be required to fill a peer-to-peer evaluation form to determine whether each team member contributed effectively to the project. A team member with an average of zero (0) in the evaluation from her peers will fail the project with a grade zero (0)
- Each team must have a public Github page and repository (<http://pages.github.com>) available for the review and evaluation. No compliance with this requirement will produce a failure with grade zero (0) in the project for every student in the group
- The project public page will contain: (1) a short video (2-4 minutes) describing the project; (2) an overview of the project including motivation, language features and approach; and (3) link to the code and documentation.