# COE/ELE 70A (Fall): Group and Individual Milestones

- **Group Members**:
  Student A: Abrar Ahsan
  Student B: Parham Habibi
  Student C: Rehnuba Fairoj
  Student D: Muhammad Shirazi

- **Project Title:** BV01: Python Program for Ladder Iterative Load Flow

- **Description:** Develop software engine to perform load-flow calculations to determine voltage solutions for distribution systems.

- **Project Modules:**

Project is separated into 4 modules that will be done by individuals for every milestone. They are below:
1. **Project Management**: Manage the documentation of everything completed and learned, preparation and completion of the Compliance Reports on time. Ensuring that the deadlines are met.
2. **Frontend Developer**: Design and build the frontend GUI for the user interface.
3. **Backend & Calculation Engine Developer**: Connection between the Frontend and the Calculation Engine. Design and implement the Ladder-Iterative calculation engine for load flow calculations.
4. **Scientific Study**: Find other load flow calculations and how they were implemented. This can include scientific papers, books, etc.

| Week | Group Tasks | Individual Tasks: Student A: (Initials*) | Individual Tasks: Student B: (Initials*) | Individual Tasks: Student C: (Initials*) | Individual Tasks: Student D: (Initials*) |
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| Wk # 3 | **Mandatory Task:** <br> 1. **Milestones Submission** <br> 2. **Meet with the FLC** | AA | PH | RF | MS |

| Wk # 4 | **Group Task: Learn load-flow calculation algorithms**<br><br>A. Research implementation methods for reading IEEE Data Formats in Python.<br>B. Research and find methods to implement load-flow calculations, both Ladder-Iterative as well as other methods.<br>C. Research and find useful Python and Non-Python GUIs for user interaction with the system.<br>D. Research and find useful Python and Non-Python GUIs for user interaction with the system. | AA | PH | RF | MS |
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| Wk # 5 | **Group Task:**<br>1. **Milestone Compliance Report (St1)**<br>2. **Learn load-flow calculation algorithms**<br><br>A. Research implementation methods for reading IEEE Data Formats in Python.<br>B. Research and find methods to implement load-flow calculations, both Ladder-Iterative as well as other methods.<br>C. Research and find useful Python and Non-Python GUIs for user interaction with the system.<br>D. Research and find useful Python and Non-Python GUIs for user interaction with the system. | AA | PH | RF | MS |
|  | **For FLC (Internal Use ONLY)**<br><br>**Milestones Compliance Report 1 (Student A – Manager, Students B, C, and D – Team Players)**<br>**Submission Date (Due: Friday 11:59PM of week 5), you may ask for a preliminary version of the report for discussion before the Friday meeting. The necessary of meeting is solely determined by FLC.**<br><br>**Notes:** | | | | |

| Wk # 6 | A. Research implementation methods for reading IEEE Data Formats in Python.<br>B. Research and find methods to implement iterative load-flow calculations, both Ladder-Iterative as well as other methods.<br>C. Research and find useful Python and Non-Python GUIs for user interaction with the system.<br>D. Research and find useful Python and Non-Python GUIs for user interaction with the system. Find data sources for both development and test purposes. | AA | PH | RF | MS |
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| Wk # 7 | **Group Task: Milestone Compliance Report (St2)**<br>A. Implement reading module to read data from excel sheets in IEEE Data Formats. This is then to be passed onto the calculation engine.<br>B. Implement a simple ladder-iterative load-flow calculation engine, having fixed inputs and printing outputs on terminal.<br>C. Build a basic GUI that allows user interaction.<br>D. Build a basic GUI that allows user interaction. Find data sources for both development and test purposes. | AA | PH | RF | MS |

**For FLC (Internal Use ONLY)**

**Milestones Compliance Report 2 (Student B – Manager, Students A, C, and D – Team Players)**
**Submission Date (Due: Friday 11:59PM of week 7):**

**Notes:**

| Wk # 8 | A. Implement reading module to read data from excel sheets in IEEE Data Formats. This is then to be passed onto the calculation engine.<br>B. Implement a simple ladder-iterative load-flow calculation engine, having fixed inputs and printing outputs on terminal.<br>C. Build a basic GUI that allows user interaction.<br>D. Build a basic GUI that allows user interaction. | AA | PH | RF | MS |
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| Wk # 9 | **Group Task: Milestone Compliance Report (St3)**<br>A. Student A will combine with Student B and run tests on the calculation engine from Data Reader to Calculation Engine. Data is to be provided by Student D.<br>B. Student A will combine with Student B and run tests on the calculation engine from Data Reader to Calculation Engine. Data is to be provided by Student D. Output will be exported into an Excel file.<br>C. Integrate Student A's implementation with the GUI and run tests to ensure the inputs are moving into the system.<br>D. Run tests along with Student A and B. Run tests on Student C's implementation. | AA | PH | RF | MS |

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| **Wk # 10** | A. Student A will combine with Student B and run tests on the calculation engine from Data Reader to Calculation Engine. Data is to be provided by Student D.<br>B. Student A will combine with Student B and run tests on the calculation engine from Data Reader to Calculation Engine. Data is to be provided by Student D. Output will be exported into an Excel file.<br>C. Integrate Student A's implementation with the GUI and run tests to ensure the inputs are moving into the system.<br>D. Run tests along with Student A and B. Run tests on Student C's implementation. | AA | PH | RF | MS |
| **Wk # 11** | **Group Task:**<br>A. **Milestone Compliance Report (St4)**<br>B. **Prepare for Oral Exam and Fall Report** | AA | PH | RF | MS |

| | For FLC (Internal Use ONLY)<br><br>**Milestones Compliance Report 4 (Student D – Manager, Students A, B, and C – Team Players)**<br>**Submission Date (Due: Friday 11:59pm of week 11):**<br><br>**Notes:** | | | | |
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| **Wk # 12** | **Mandatory Tasks** (both as Group and Individual)**:**<br><br>- **Completion of Your Assigned Responsibilities as Per Your EDP Topic Requirements.**<br>- **Prepare for Project Oral Exam and**<br>- **Prepare for Final Report Submission.** | AA | PH | RF | MS |
| **Wk # 13** | **Mandatory Tasks (both as Group and Individual):**<br><br>- **Completion of Your Assigned Responsibilities as Per Your EDP Topic Requirements.**<br>- **Prepare for Project Oral Exam and**<br>- **Fall Final Report Submission. Due Friday 11:59PM of week 13.** | AA | PH | RF | MS |