



COURSE OUTLINE

Course Code: CSE 310

Course Title: Compiler Sessional

Level/Term: 3/1 Section: A & B

Academic Session: 2019-2020

Course Teacher(s):

| Name: Office/Room: E-mail and Telephon | | E-mail and Telephone: (optional) |
|--|-----|------------------------------------|
| Dr. Muhammad Masroor Ali | 219 | mmasroorali AT cse DOT buet DOT ac |
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Course Outline: (To be filled from the course handbook)

Laboratory works based on Introduction to compiling; Basic issues; Lexical analysis; Syntax analysis; Syntax-directed translation; Semantic analysis: type-checking; Run-time environments; Intermediate code generation; Code generation; Code optimization and project works using some lexical analyzer and parser designing tools.

Learning Outcomes/Objectives:

After undergoing this course, students should be able to:

- i. Understand the basic components of a compiler and interaction among them.
- ii. Use tools like flex to generate scanners.
- iii. Use tools like Bison to generate parsers with aim to perform syntax analysis, semantics analysis.
- iv. Construct a simple compiler.
- v. Develop CFG to recognize a language and Regular Expression to recognize a pattern.







Assessment

Offline and Online: 60-70%

Attendance: 5 %

Quiz: 25-35%

Text and Reference books:

a. Compilers - Principles, Techniques, and Tools, Aho, Sethi, Ullman

b. Flex & Bison, John R. Levine

c. A Compact Guide to Lex & YACC, Thomas Niemann





Weekly schedule:

| Week | Date | te Topics | |
|---------|---------------------------|---|------------------------|
| Week 1 | | No class | |
| Week 2 | Sat, March 06, 9:30 AM | Class on Introduction to compiler, Basic issues, Symbol Table Offline-I declaration (Symbol Table) | SMMR |
| Week3 | Regular class time | Evaluation of Offline-I: Subsection A1, B1 | All Course Teachers |
| Week 4 | Sat, March 20, 9:30 AM | Offline-II declaration (Lexical Analysis) | SMMR |
| | Regular class time | Evaluation of Offline-I: Subsection B2 | All Course Teachers |
| Week 5 | Regular class time | Evaluation of Offline-I: Subsection A2 | All Course Teachers |
| Week 6 | | Offline-III declaration (Syntax & Semantic Analysis) | MMA |
| | Regular class time | Evaluation of Offline-II: Subsection A1, B1 | All Course Teachers |
| Week 7 | Regular class time | Evaluation of Offline-II: Subsection A2, B2 | All Course Teachers |
| | | Mid-Term break of one week | |
| Week 8 | Regular class time | Evaluation of Offline-III: Subsection A1, B1 | All Course Teachers |
| Week 9 | Regular class time | Evaluation of Offline-III: Subsection A2, B2 | All Course Teachers |
| | | Offline-IV declaration (Intermediate Code Generation, Optimization) | KMS |
| | | Eid-ul-fitr break of two weeks | |
| Week 10 | Regular class time | Progress Monitoring of Offline-IV: Subsection A1, B1 | All Course Teachers |
| Week 11 | Regular class time | Progress Monitoring of Offline-IV: Subsection A2, B2 | All Course Teachers |
| Week 12 | | No class | |
| Week 13 | Regular class time | Evaluation of Offline-IV: Subsection A1, B1 All Course Teachers | |





| Week 14 | Regular class | Evaluation of Offline-IV: Subsection A2, B2 | All Course |
|---------|---------------|---|------------|
| | time | | Teachers |
| Week 15 | | Quiz | All Course |
| | | | Teachers |

| Prepared by: |
|---------------------------------|
| Name: Concerned course teachers |
| Signature: |
| Date: |