**COURSE OUTLINE**

**Course Code: CSE 310**

**Course Title: Compiler Sessional**

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

**Academic Session: 2017-2018**

**Course Teacher(s):**

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| **Name:** | **Office/Room:** | **E-mail and Telephone: (optional)** |
| Md. Iftekharul Islam Sakib (MDIIS)  (Lecturer) | 418 | miisakib@gmail.com |
| Shareef Ahmed (SAT)  (Lecturer) | 212 | shareef.tamal@gmail.com |
| Mahmudur Rahman Hera (MRH)  (Lecturer) | 412 | mahmudhera93@gmail.com |
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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:**

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| **Week** | **Topics** | **Teacher’s Initial** |
| Week 1 | Class on Introduction to complier, Basic issues, Symbol Table  Offline-I declaration (Symbol Table) | SAT, MRH |
| Week 2 | No class |  |
| Week 3 | Evaluation of Offline-I and Online-I: Subsection A1, B1  Offline-II declaration (Lexical Analysis) | All Course Teachers |
| Week 4 | Evaluation of Offline-I and Online-I: Subsection A2, B2 | All Course Teachers |
| Week 5 | No class | All Course Teachers |
| Week 6 | Evaluation of Offline-II and Online-II: Subsection A1, B1 | All Course Teachers |
| Week 7 | Evaluation of Offline-II and Online-II: Subsection A2, B2  Offline-III declaration (Syntax & Semantic Analysis) | All Course Teachers |
| Week 8 | No class |  |
| Week 9 | Evaluation of Offline-III: Subsection A1, B1  Offline-IV declaration (Intermediate Code Generation, Optimization) | All Course Teachers |
| Week 10 | Evaluation of Offline-III: Subsection A2, B2 | All Course Teachers |
| Week 11 | No class |  |
| Week 12 | Evaluation of Offline-IV: Subsection A1, B1 | All Course Teachers |
| Week 13 | Evaluation of Offline-IV: Subsection A2, B2 | All Course Teachers |
| Week 14 | Quiz | All Course Teachers |

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| Prepared by : |  |
| Name: Shareef Ahmed  Signature:  Date: | Name: Mahmudur Rahman Hera  Signature:  Date: |