

**Kingdom of Saudi Arabia**

**The National Commission for Academic Accreditation & Assessment**

**Course REPORT  
(CR)**

**Compiler Design**

**CIS 338-Z**

**Dr. Naveed Ejaz**

A separate Course Report (CR) should be submitted for every course and for each section or campus location where the course is taught, even if the course is taught by the same person. Each CR is to be completed by the course instructor at the end of each course and given to the program coordinator

A combined, comprehensive CR should be prepared by the course coordinator and the separate location reports are to be attached.

## Course Report

For guidance on the completion of this template refer to the NCAAA handbooks or the NCAAA Accreditation System help buttons.

Institution : Al Majmaah university	Date of Course Report : 20/3/1436H
College/ Department : College of Science / Department of Computer Science and Information	

### A. Course Identification and General Information

1. Course title	Compiler Design	Code #	CIS 338-Z	Section #	100	
2. Name of course instructor	Location: College of Science in Al- Zulfi					
3. Year and semester to which this report applies.	First Semester 1435-36					
4. Number of students starting the course?	10	Students completing the course?	09			
5. Course components (actual total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	30		30			45
Credit	30		15			45

### B. - Course Delivery

1. Coverage of Planned Program			
Topics Covered	Planned Contact Hours	Actual Contact Hours	Reason for Variations if there is a difference of more than 25% of the hours planned
<b>1.Introduction to Compilers:</b> The role of language translation in the programming process, Comparison of interpreters and compilers, Language translation phases, Machine dependent and machine independent aspects of translation, Language translation as a software engineering activity	3	3	
<b>2.Lexical Analysis:</b> Application of regular expressions in Lexical Analysis, Scanning, hand coded scanner vs. automatically generated	9	10	

scanners, formal definition of tokens, implementation of finite state automata.			
<b>3.Syntax Analysis and Parsing:</b> Revision of formal definition of grammars, BNF and EBNF, Bottom-up vs. Top-down parsing, Tabular vs. Recursive-descent parsers, Error handling,	9	9	
<b>4.Parser Generators:</b> Automatic generation of tabular parsers, Symbol table management, Use of tools in support of the translation process	6	6	
<b>5.Semantic Analysis:</b> Data type as set of values with set of operations, data types, Type- checking models, Semantic models of User defined types, Parametric polymorphism, Subtype polymorphism, Type checking algorithms.	6	6	
<b>6.Intermediate Code Generation</b> Intermediate and object code, intermediate representations, implementation of code generators	9	8	

2. Consequences of Non Coverage of Topics For any topics where the topic was not taught or practically delivered, comment on how significant you believe the lack of coverage is for the course learning outcomes or for later courses in the program. Suggest possible compensating action.		
Topics (if any) not Fully Covered	Effected Learning Outcomes	Possible Compensating Action
None	-	-

### 3. Course learning outcome assessment.

	List course learning outcomes	List methods of assessment	Summary analysis of assessment results
1	Understand the structure of compilers	Term Exams, Home works, Presentations & Reports	
2	Understand the basic techniques and data structures used in compiler construction such as lexical analysis, top-down, bottom-up parsing, context-sensitive analysis, and intermediate code generation	Term Exams, Home works, Presentations & Reports	
3	Design and implement a compiler using a software engineering	Term Exams, Home works, Presentations & Reports	

	approach		
4	Identify problems, and explain, analyze, and evaluate various design strategies of compilers.	Term Exams, Home works, Presentations & Reports	
5	Work in a group and learn time management.	Term Exams, Home works, Presentations & Reports	
6	Present a short report in a written form and orally using appropriate scientific language.	Term Exams, Home works, Presentations & Reports	
7	Communicate with teacher, ask questions, solve problems, and use computers.	Home works, Group Discussions, Class Activities	
8	Use Information technology and computer skills to gather information about a selected topic.	Home works, Group Discussions, Class Activities	

Summarize any actions you recommend for improving teaching strategies as a result of evaluations in table 3 above.

- Individual presentations
- Brainstorming exercises
- Group Discussions

4. Effectiveness of Planned Teaching Strategies for Intended Learning Outcomes set out in the Course Specification. (Refer to planned teaching strategies in Course Specification and description of Domains of Learning Outcomes in the National Qualifications Framework)

List Teaching Methods set out in Course Specification	Were these Effective?		Difficulties Experienced (if any) in Using the Strategy and Suggested Action to Deal with Those Difficulties.
	No	Yes	
<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Homework / Assignments</li> <li>• Group Discussions</li> </ul>		√	
<ul style="list-style-type: none"> <li>• Case studies.</li> </ul>		√	
<ul style="list-style-type: none"> <li>• Evaluation of Presentation skills.</li> </ul>		√	

<ul style="list-style-type: none"> <li>• Use of internet media</li> <li>• Extensive use of online libraries</li> </ul>		√	
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**Note:** In order to analyze the assessment of student achievement for each course learning outcome, student performance results can be measured and assessed using a KPI, a rubric, or some grading system that aligns student work, exam scores, or other demonstration of successful learning.

### C. Results

#### 1. Distribution of Grades

Letter Grade	Number of Students	Student Percentage	Explanation of Distribution of Grades
A <sup>+</sup>	1	11.11%	
A	1	11.11%	
B <sup>+</sup>	2	22.22%	
B	2	22.22%	
C <sup>+</sup>	2	22.22%	
C	1	11.11%	
D <sup>+</sup>	0	0	
D	0	0	
F	0	0	
Denied Entry	0	0	
In Progress	0	0	
Incomplete	0	0	
Pass	09	90%	
Fail	0	0	
Withdrawn	1	0	

2. Analyze special factors (if any) affecting the results

None

3. Variations from planned student assessment processes (if any) (see Course Specifications).

a. Variations (if any) from planned assessment schedule (see Course Specification)

Variation	Reason

b. Variations (if any) from planned assessment processes in Domains of Learning (see Course Specification)	
Variation	Reason
None	None

4. Student Grade Achievement Verification (eg. cross-check of grade validity by independent evaluator).	
Method(s) of Verification	Conclusion
Final Exams marks verification by an independent committee of Faculty Members.	No variation in results found

#### D. Resources and Facilities

1. Difficulties in access to resources or facilities (if any)  None	2. Consequences of any difficulties experienced for student learning in the course.  Students had some issues related to English language.
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#### E. Administrative Issues

1 Organizational or administrative difficulties encountered (if any)  None	2. Consequences of any difficulties experienced for student learning in the course.  None
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### F. Course Evaluation

1 Student evaluation of the course (Attach survey results report) The evaluation report is attached.
a. List the most important recommendations for improvement and strengths
b. Response of instructor or course team to this evaluation
2. Other Evaluation (e.g. by head of department, peer observations, accreditation review, other stakeholders)
a. List the most important recommendations for improvement and strengths
b. Response of instructor or course team to this evaluation

### G. Planning for Improvement

1. Progress on actions proposed for improving the course in previous course reports (if any).			
Actions recommended from the most recent course report(s)	Actions Taken	Results	Analysis
a. None			
b. None			
c. None			
d. None			



2. List what actions have been taken to improve the course (based on previous CR, surveys, independent opinion, or course evaluation).

None

3. Action Plan for Improvement for Next Semester/Year

Actions Recommended	Intended Action Points and Process	Start Date	Completion Date	Person Responsible
a. Use of simulation tools for better presentation of Regular Expressions.	Teacher may download free tools, understand them and then use in teaching	Feb 2015	May 2015	Dr. Naveed Ejaz
b. Use of Flex tool for generation of Lexors.	Teacher may download free tools, understand them and then use in teaching	Feb 2015	May 2015	Dr. Naveed Ejaz
c. Use of simulators for teaching parsers and related techniques.	Teacher must look for the tools, understand them and then use in teaching	Feb 2015	May 2015	Dr. Naveed Ejaz

**Name of Course Instructor: Dr. Naveed Ejaz**

**Signature:** \_\_\_\_\_

**Date Report Completed: 21/3/1436H**

**Program Coordinator: Dr. Yosry Y Azzam**

**Signature:** \_\_\_\_\_

**Date Received: /3/1436H**