

# **COURSE REPORT (CR)**

**Najran University**

**College of Computer Science and Information Systems**

**Department of Computer Science**

**Course Name: Computer Graphics**

**Course Code: 281CSS-3**

**June 2017**

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.

Institution : Najran University	Date of Course Report : 25/05/2017
College/ Department: : College of Computer Science & Information Systems	

#### A. Course Identification and General Information

1. Course title: Computer Graphics	Code # 281CSS-3	Section # 302				
2. Name of course instructor : Md. Selim Reza	Location: University City Campus					
3. Year and semester to which this report applies: Second Semester (2016-2017)						
4. Number of students starting the course?	6	Students completing the course? 5				
5. Course components (actual total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	30	6	30	-		66
Credit	2	0	1	-		3

#### 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
Introduction to Computer Graphics	2	2	
Graphics display devices and input/output primitives	5	5	
Drawing basic graphics primitives, filling polygons	5	5	
Attributes of computer graphics primitives (state variables, color, points, lines, filling regions, antialiasing)	6	6	
2D Geometric affine transformations	10	10	
2D Viewing Pipeline, Clipping and coordinates	4	4	

Three dimensional viewing and graphics rendering pipeline and 3D viewing and graphics rendering pipeline	8	8	
Representation and transformation of geometric objects (Polyhedra and Curved Surfaces)	4	4	
Introduction to interactive input methods and mouse and keyboard functions	4	4	
Visible Surface Detection	4	0	This topic was planned for 14 <sup>th</sup> week but this semester was an unusual semester and due to lack of time this topic was not covered.

## 2. Consequences of Non Coverage of Topics : **NIL**

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	Effectuated Learning Outcomes	Possible Compensating Action
Visible Surface Detection	No significant effect on the CLO	-

## 3. Course learning outcome assessment.

	List course learning outcomes	List methods of assessment	Percentage of Achievements (a student achieves a CLO if she achieves 65% of it)	Summary analysis of assessment results
1	CLO-1: Demonstrate knowledge of fundamental and contemporary computer graphics hardware	Locally Developed Exams such as Mid Exams and Quiz	70.59%	Students were confident in this CLO
2	CLO-2:-Demonstrate basic knowledge of mathematical background (vector and matrix	Locally Developed Exams such as quiz, Mid Exams, final	76.47%	Students were able to solve the mathematical problems, algorithms

	computation) and algorithms underlying the basic computer graphics primitives	exams		and logical problems
3	CLO-3: Apply the main OpenGL attributes that control the display characteristics of graphics primitives	Locally Developed Exams such as Mid Exams& Lab Assessments	82.35%	Students were confident in this CLO
4	CLO:4-Implement basic geometrical transformations on simple 2D and 3D computer objects using OpenGL in C++	Locally Developed Exams such as Final Lab embedded Questions with Scoring Rubrics and Final Exam	41.18%	Topics based on this CLO were taken starting from week 9 to 10. Because of mid exam during this period, the students were very irregular in attending the lectures and some of the students don't view the lecture recordings also
5	CLO-5: Create interactive and usable graphic applications in C++ using OpenGL programming interfaces	Final Exam and Final Lab Exam embedded Questions with Scoring Rubrics	47.06%	As attendance was not mandatory, the students were very irregular in attending the regular labs of these topics and some of the students do not even view the echo recordings uploaded in the blackboard.
6	CLO-6: Apply basic physics of light and its interaction in simple objects using OpenGL in C++	Locally Developed Exams such as Final Lab Exam embedded Questions with Scoring Rubrics	58.82%	
7	CLO-7: Illustrate good level of debugging, documentation and structuring skills in computer graphics programs	Lab Assessments	70.59%	Students were able to debug the program, as they were able to understand the OpenGL commands well.

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

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	
TS: 1-Interactive Lectures using powerpoint slides with more examples.		√	
TS:2- Engaging the students in problem based learning through Tutorials		√	
TS:3- Lab Demonstrations		√	
TS: 4- Encouraging the students to use the online links to know the concepts in detail.		√	
TS: 5 – Recall the topics discussed in the last lecture by asking questions to the students.		√	
TS: 6 – Associating the topics in each chapter with the CLO.		√	

**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

LetterGrade	Number of Students	Student Percentage	Explanation of Distribution of Grades
A	0		The students were very good in the course
B	0		The students performed well throughout the course.
C	2		The students have fair analytical and logical reasoning skills.
D	3		The students lack in logical reasoning skills.
F	0		One of the students was very irregular in attending the lectures and lab sessions and showed minimal participation in the course. The other student lack logical thinking and problem solving skills.
DeniedEntry	0		
In Progress	0		
Incomplete	1		The student was absent for the final theory exam
Pass	5		
Fail	0		One of the students was very irregular in attending the lectures and lab sessions and showed minimal participation in the course. The other student lack logical thinking and problem solving skills.
Withdrawn	0		

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

a) Because of the unexpected situation in Najran, the students' attendance was not mandatory and because of this reason the students did not attend the lectures regularly. Most of the students view the recorded lectures uploaded in the black board only during exam period.

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

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

Variation	Reason
Nil	Nil

b. Variations (if any) from planned assessment processes in Domains of Learning (see Course Specification)

Variation	Reason
Nil	Nil

4. Student Grade Achievement Verification (eg. cross-check of grade validity by independent evaluator).

Method(s) of Verification	Conclusion
Students' grades and marks are accurately checked and reviewed by the recheckers applicable to mid exams, final theory and lab exams.	Verification of marks is assured in this way.
The final grades are discussed and checked by the department coordinator.	
Rubrics are used to evaluate the complex questions.	Rubrics are very useful in judging the students' answers for complex questions
The course coordinators review the question paper according to the NCAAA/ABET standards.	The questions used in the assessment methods are reviewed to make sure that all the questions are related to the CLOs.

#### D. Resources and Facilities

1. Difficulties in access to resources or facilities (if any)  Hard copy of the text books and reference books are not available in the library of the female campus, although the soft copy of the books are delivered to the students through the blackboard.	2. Consequences of any difficulties experienced for student learning in the course.  Students rely on the lecture handouts and the powerpoint slides.
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## E. Administrative Issues

1. Organizational or administrative difficulties encountered (if any)	2. Consequences of any difficulties experienced for student learning in the course.
NIL	NIL

## F. Course Evaluation

1 Student evaluation of the course (Attach survey results report)	
The student evaluation from the edugate of NU is attached. Also the summary of the course survey given to the students before 2 weeks of the final exam is available as the hard copy.	
a. List the most important recommendations for improvement and strengths	
The resources such as the hard copy of the books from the central library should be accessible to the students.	
According to the students' opinion in the online course survey, the students in general are satisfied with the course.	
b. Response of instructor or course team to this evaluation	
According to the evaluation, the students are satisfied with the course. Some of the students usually fill the survey mostly without reading the details and even sometimes, the students fill the online survey depending on how they performed in their final exams.	
2. Other Evaluation (e.g. by head of department, peer observations, accreditation review, other stakeholders).	
N/A	
a. List the most important recommendations for improvement and strengths. N/A	
b. Response of instructor or course team to this evaluation. N/A	

## 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
Let the students to modify some interactive programs	Yes	More exercises in the lab activities were given to the	Students were not



and let them implement more applications related to interactivity in the lab.		students. But most of the students did not practice the programs in the open lab hours and did not attend the regular labs from the mid exam-2 period (week 9)	confident in CLO-5.
Interactive tutorials with group discussions and seminars.	Yes	Tutorials that is based on graphics hardware, problem solving, transformations were given	Students showed interest in problem solving
Assignments involving critical thinking and reasoning	Yes	Assignments based on debugging, OpenGL commands and graphics hardware was given	Students showed positive response
Debugging, documentation and structuring skills must be considered in all programs written and prepared by students	Yes	Lab Assessments to test the debugging skills were given	Students became confident in CLO-7
Assign more time and lab work to study more about physics of lights in theory classes and labs.	No	Lecture handouts, online links were given to the students. But most of the students did not practice the light programs in the open lab hours.	Students were not much confident in the light programs

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

### 3. Action Plan for Improvement for Next Semester/Year

Actions Recommended	Intended Action Points and Process	Start Date	Completion Date	Person Responsible
Interactive tutorials with group discussions and seminars.	Should be conducted on completion of each chapter	Start of the semester	Before 2 weeks of the final exam	Course Instructor

Assignments involving critical thinking and reasoning	Assignments should be given for complex topics	Every 3 weeks during the semester	Before 2 weeks of the final exam	Course Instructor
Hard copies of the text books must be available with students	Provide text books in the library and allow access to the students to take copies.	Start of the semester	End of the semester	Program's Head
CLOs must be explained and emphasized to students.	Questions should be asked about the CLOs during lectures	Start of the semester	End of the semester	Course Instructor
Give more lab oriented activities to the students to become familiar with the graphics programming	Mini project can be given to the students by forming groups.	Three weeks after the start of the semester	Till the final lab exam week	Course Instructor
Assign more time and lab work to study more about physics of lights in theory classes and labs.	Assignments and tutorial problems can be given	Start from week 10 of the semester	Till the final lab exam week	Course Instructor
Improve student group learning skills by dividing them into groups let them to answer open-ended and close-ended questions	Tutorial hours can be used.	Start of the semester	End of the semester	Course Instructor
Devote more time to create more programs related to transformations.	More lab exercises that is based on geometric transformations can be given	Start from week 8 of the semester	Till the final lab exam week	Course Instructor

**Name of Course Instructor: Md. Selim Reza**

**Signature:**

**Date Report Completed: 25/05/2017**

**Program Coordinator: Dr. Abdulrahman Thaqfan**

**Signature:**



**Date Received: 25/05/2017**