

Improvement plan of the program (Annual)

Academic year 1436-1437(2015-2016)

CS Program

Planning for Improvement (First Semester 2015/2016)

The curriculum committee and coordinators of courses discussed the following in the meeting:

- Issues of the Community College students enrolled in the CS program.
- Recommendations proposed by the faculty in the courses offered in the First Semester 2015/2016 including the distribution of students' grades, Course Learning Outcomes (CLOs) and Student Outcomes (SOs) assessment results.
- Overall Online Course Survey results.
- Graduation Projects.
- Other issues related to the improvements of the program.

The end result of the discussion is the improvement plan containing the list of actions that must implemented at various levels of the program:

E.1: Actions to be implemented at a level other than courses.

E.2 Common actions to be implemented for all CS courses.

E.3: Actions to be implemented for each specific course.

Note that all evidences and feedbacks of the discussion are available as display materials in the DQU room.

E.1 Actions to be implemented at a level other than courses

Recommendations/Actions based on CS Courses' Reports Collected in the First Semester 2015/2016	Timelines(Start and Completion Date)	Responsible People
1. Tasks and responsibilities must be clear to everyone in the college	January to June 2016	DQU
2. The Scientific research policy of the college must be published and made clear to all members	January to June 2016	Scientific Research Unit
3. Website must be updated with all templates and documents	January to June 2016	Website committee

4. Every course has course coordinator; both the course instructor and course coordinator have regular consultation with each other to improve the course.	January to June 2016	Department's Head and DQU
5. Improving the level of coordination between the course instructor and course coordinator in girls section	January to June 2016	Department's head and Faculty
6. Change the policy of admitting new students (Levels, entry exam, etc.). Students can be accepted as we have open admission in our university. However, we can have placement tests that can be used to place the students in the appropriate level of Math and English. The students with low levels can be put in a track that is composed of development courses.	January to June 2016	College Council and University Authority
7. Change the policy and requirements of admission of the community college students in the CS program.	January to June 2016	DQU-Curriculum Committee
8. Motivate students towards learning. This could be done through regular meetings, discussions, scholarships, programming contest, etc. Create competition environment between students. This can be done by selecting the topper student in each level and give them some appreciation certificate and/or some cash prize	January to June 2016	Student Committee and Program Council
9. Hardcopy Textbooks of all the courses must be available in the college library.	January to June 2016	Program and College Councils and Text books Committee
10. The faculty members and the students should be given access to use the Hardcopy Textbooks that are available in the college library	January to June 2016	Head of the Department
11. Change the pre-requisite for Data Structure (212CSS-3) course from 111CSS-4 to 113CSS-3 (Reasons available in the course file of 212CSS-3).	January to June 2016	Heads of programs
12. Perform full revision of the syllabus of courses including descriptions, learning outcomes, mapping to student learning outcomes (Program Level).	January to June 2016	Curriculum Committee (CC-CS)
13. Hold Programming contests	January to June 2016	Lab Committee and Heads of programs
14. All the needed software should be installed and maintained in the labs.	January to June 2016	Lab Management Committee
15. Peer to peer evaluation for teaching staff could improve the teaching strategies	January to June 2016	Development and Quality Unit
16. The approved Course Specification and Course Report of the previous semester should be available to the course instructor at the beginning of the semester.	January 2016	Development and Quality Unit

E.2 Common actions to be implemented for all CS courses.

The following table illustrates common actions that must be implemented for all CS courses. The following actions will be implemented by the course instructors in the Second Semester 2015/2016.

- Review the content and learning outcomes of all courses. Contact the coordinator of your course for this action.
- Course Learning Outcomes (CLOs) must be explained to students from time to time.
- Relate course topics and chapters to CLOs.
- Use CLOs to design your assessment methods (Quiz, Exams, Assignments, etc.). Your questions must be consistent with the action verbs of CLOs.
- Advanced courses should be well covered.
- Students should know the expectations in the assessment methods. So, if possible, discuss the marking scheme (e.g. rubric, etc.) with students before and after the exam.
- Instructors must deliver their courses according the latest course files including course specification and course report.
- Tutorial is recommended for all courses.
- Instructors should contact the lab instructors to make sure that the lab materials are consistent with the theory materials.
- Encourage students to come regularly to the teacher's office to complete understanding of the lectures.
- Train students with the type of questions on critical thinking rather than memorizing.
- Encourage students to visit your office during office hours for any kind of consultations such as the future job prospects in SA, etc.
- To improve class participation, it will be better if fix some marks for class participation and attendance. (If instructors are allowed to change the evaluation scheme).
- Inspire and reward students for their achievements.
- Initiate group/pair discussion in the class to improve student's performance.
- Motivate and encourage students to study outside class hours.
- Course File must be available by the end of each semester.
- Approved recommendations of previous semester must be implemented.
- Syllabus must be explained to students especially the CLOs.
- Adjusting the contact hours given to the topics based on the instructor needs and approval of the course coordinators.
- Use e-learning tools (blackboard).
- Must inform the students all the time regarding the available office hours and references
- Consider different levels of understanding in your teaching strategies.
- Links for online study material for all important topics in the course should be given to students.

- Organize meetings with the course coordinator to discuss the issues related to the course and the students' learning.
- Implement student centered learning in class which involve the student interactively for every example that has been discussed
- Explain material repetitively whenever requested.
- Receive students in a friendly manner during office hours
- Prepare some activities to improve team work in a good way
- Make relationship between your courses and other courses.
- It will be good if course instructor bring one student in front and ask him to present what studied in today's lecture. This will be very good to boost the student's confidence and improve the presentation skills. Also in this way students will be more active during class time.
- To improve the student's interest in course, it will be better to relate the lecture topic with daily life and also explain how this course will be beneficial for you in future during higher studies or practical life.
- Continually motivate the students to put their energies and efforts towards studies and always boost the student's confidence.
- Encourage students to read course related books, reference books and also take help from internet to get extra knowledge related to course.
- Relate assignments and exams to the text book to encourage students to read the text book.
- Encourage students to attend tutorial classes.
- Force students to submit assignments on time.
- Updating your personal website with all course related documents
- Recapping previous classes for 5-10 min at the beginning
- Motivate students on self-study through sample tests/solve problems.
- Arranging meeting with the student's academic advisor about student's performance at the end of every course assessment
- Some marks must be allotted for plagiarism check to avoid that students did not copy same data from books and internet.

E.3: Actions to be implemented for each specific course.

Course Code	Course Name	Coordinator	Instructor(s)	Section
111CSS-4	Programming Language-1	Dr. Zakaria Toukal	Ms. Saira Banu	368
Recommendations/Actions				
1. Relate the recognition of C syntax in all lab activities 2. Devote more time to trace and evaluate program and find the error in the program 3. Increase the number of quizzes in the course				

4. Students must understand that this course is a gate course in CS and that they must achieve the learning outcomes of the course to pass the course
5. Assignments involving critical thinking and reasoning
6. More course assessment methods should be included
7. Devote more time to the function related concepts.

Course Code	Course Name	Coordinator	Instructor(s)	Section
113CSS-4	Object Oriented Programming	Dr. Ahmed Taleb	Dr. Mohammed Khairi	371

Recommendations/Actions

- 1) Students must have strong background in programming 1 (111CSS-4)
- 2) Arrange a seminar for all college students to motivate the students to put their energies and efforts towards programming
- 3) Relate the principles of OO to JAVA Programs in the class and the lab
- 4) Ensure that lab activities cover java syntax and semantics.
- 5) Explain the benefits of Java Standard classes and methods and how they can facilitate the programmer to solve problems.
- 6) Devote more time to solve more problems using Object Oriented Techniques
- 7) Devote more time to trace and evaluate program and find the error in the program
- 8) Use more time to understand the components of Object Oriented Programs.
- 9) Students must understand that this course is a gate course in the major (IS & CS) and that they must achieve the learning outcomes of the course to pass the course
- 10) Increase the number of quizzes in the course.
- 11) Focus on the main principles of OO programming and reduce the number of hours for the following topics from the course syllabus:
 - Exception handling mechanisms
 - Java Thread Model, Thread class and Run able interface, the main thread, Creating thread and multiple thread.
 - Applet fundamentals, applet class.
 - Networking Basics, Socket, Client/Server, DNS, Networking classes and interface, URL, Demonstrating URL.

Course Code	Course Name	Coordinator	Instructor(s)	Section
222CSS-4	Computer Organization and Architecture	Mr. Samiul Islam	Ms. Enaam AbulQader	379

Recommendations/Actions

1. More practical programming exercise/ assignments/ solutions to be given to students.
2. Lab activities should be reevaluate and more creative.
3. Increase the number of critical thinking problems.
4. Explain to students that this course is not a memorization course.

Course Code	Course Name	Coordinator	Instructor(s)	Section
235CSS-3	Theory of Computation	Mr. Muhammad Akram	Ms. Eman Abdel Kareem	389

Recommendations/Actions

1) Increase the number of critical thinking problems. 2) Devote more time to solve more problems.				
Course Code	Course Name	Coordinator	Instructor(s)	Section
281CSS-3	Computer Graphics	Dr. Khairan Rajab	Saira Banu	392
Recommendations/Actions				
1) Debugging, documentation and structuring skills must be considered in all programs written and prepared by students 2) Give more lab oriented activities to the students to become familiar with the graphics programming				
Course Code	Course Name	Coordinator	Instructor(s)	Section
329CSS-3	Data Communication and Computer Networks	Ms. Nyla Khadam	Dr. Mohammed Shargabi	397
Recommendations/Actions				
1) Implement a practical project				
Course Code	Course Name	Coordinator	Instructor(s)	Section
330CSS-3	Programming Paradigm	Mr. Sam Matiur Rehman	Ms. Gulshan Aara	399
Recommendations/Actions				
1) Encourage students to read the textbook by allotting library hours and providing text books 2) Implement student centered learning in class by giving more exercises and assignments				
Course Code	Course Name	Coordinator	Instructor(s)	Section
342CSS-3	Software Engineering	Dr. Asadullah Sheikh	Ms. Raniah Zaheer	405
Recommendations/Actions				
1. Encouraging students to present seminar on the project, which they did in the course.				
Course Code	Course Name	Coordinator	Instructor(s)	Section
345CSS-3	Compiler Design and Construction	Dr. Anwar Ali	Ms. Fahmida Khanam	407
Recommendations/Actions				
1. Devote more hours for solving problems on various components of compilers such as Lexical Analysis, Syntax Analysis, Code Generation and Optimizations. 2. Associate students with the evolution and advancements of Compiler technology on different fields such as Implementation on High-level Programming Languages, Program Translations etc. through Research, and Programming Assignments. 3. This course is dropped in the new curriculum				
Course Code	Course Name	Coordinator	Instructor(s)	Section
380CSS-3	Fundamentals of Database Systems	Ms. Raniah Zaheer	Ms. Soad Mohammed	409

Recommendations/Actions				
<ol style="list-style-type: none"> 1. Devote more time to Solve simple queries by using the operations (selection, projection, join, Cartesian product) of the theoretical database language Relational Algebra 2. Devote more time to solve more problems related normalized, well-structured relational data model 3. Devote more time to solve more queries by using SQL 				
Course Code	Course Name	Coordinator	Instructor(s)	Section
429CSS-3	Computer Security	Dr. Ghassan Ahmed Ali	Ms. Nyla Khadam	412
Recommendations/Actions				
<ol style="list-style-type: none"> 1. Lab should focus on Computer Security tools rather than programming by installing licensed computer security tools in labs. 				

Planning for Improvement (Second Semester 2015/2016)

The curriculum committee and coordinators of courses discussed the following in the meeting:

- Issues of the Community College students enrolled in the CS program.
- Recommendations proposed by the faculty in the courses offered in the Second Semester 2015/2016 including the distribution of students' grades, Course Learning Outcomes (CLOs) and Student Outcomes (SOs) assessment results.
- Distribution of the Students' Grades of the courses that was offered in the second semester 2015/16
- Calculation of the Student Outcomes Achievement to include courses that have less than 5 students.
- Other issues related to the improvements of the program.

The end result of the discussion is the improvement plan containing the list of actions that must implemented at various levels of the program:

E.1: Actions to be implemented at a level other than courses.

E.2 Common actions to be implemented for all CS courses.

E.3: Actions to be implemented for each specific course.

E.1 Actions to be implemented at a level other than courses

Recommendations/Actions based on CS Courses' Reports Collected in the Second Semester 2015/2016	Timelines(Start and Completion Date)	Responsible People
1. The programming tool for the courses 111CSS-4 and 113CSS-4 will be Java.	Beginning from Next Semester February 2017	Faculty
2. Review the mapping of SOs for specific courses such as 380CSS-3	October 2016	Curriculum Committee, Knowledge Group
3. Tasks and responsibilities must be clear to everyone in the college	September 2016 to January 2017	DQU
4. The Scientific research policy of the college must be published and made clear to all members	September 2016 to January 2017	Scientific Research Unit
5. Website must be updated with all templates and documents	September 2016 to January 2017	Website committee
6. Every course has course coordinator; both the course instructor and course coordinator have regular consultation with each other to improve the course.	September 2016 to January 2017	Department's Head and DQU
7. Improving the level of coordination between the course instructor and course coordinator in girls section	September 2016 to January 2017	Department's head and Faculty
8. Change the policy of admitting new students (Levels, entry exam, etc.). Students can be accepted as we have open admission in our university. However, we can have placement tests that can be used to place the students in the appropriate level of Math and English. The students with low levels can be put in a track that is composed of development courses.	September 2016 to January 2017	College Council and University Authority
9. Formation of the committee to change the policy and requirements of admission of the community college students in the CS program.	September 2016 to January 2017	Head of the Department
10. Motivate students towards learning. This could be done through regular meetings, discussions, scholarships, programming contest, etc. Create competition environment between students. This can be done by selecting the topper student in each level and give them some appreciation certificate and/or some cash prize	September 2016 to January 2017	Student Committee and Program Council
11. Hardcopy Textbooks of all the courses must be available in the college library.	September 2016 to January 2017	Program and College Councils and Text books Committee
12. The faculty members and the students should be given access to use the Hardcopy Textbooks that are	September 2016 to January 2017	Head of the Department

available in the college library		
13. Change the pre-requisite for Data Structure (212CSS-3) course from 111CSS-4 to 113CSS-4	September 2016 to January 2017	Heads of programs
14. Perform full revision of the syllabus of courses including descriptions, learning outcomes, mapping to student learning outcomes (Program Level).	September 2016 to January 2017	Curriculum Committee (CC-CS)
15. Hold Programming contests	September 2016 to January 2017	Lab Committee and Heads of programs
16. All the needed software should be installed and maintained in the labs.	September 2016 to January 2017	Lab Management Committee
17. Peer to peer evaluation for teaching staff could improve the teaching strategies	September 2016 to January 2017	Development and Quality Unit
18. The approved Course Specification and Course Report of the previous semester should be available to the course instructor at the beginning of the semester.	September 2016 to January 2017	Development and Quality Unit

E.2 Common actions to be implemented for all CS courses.

The following table illustrates common actions that **must** be implemented for all CS courses. The following actions will be implemented by the **course instructors** in the **First Semester 2016/2017**.

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- Instructors must deliver their courses according the latest course files including course specification and course report.
- Tutorial is recommended for all courses.
- Instructors should contact the lab instructors to make sure that the lab materials are consistent with the theory materials.
- Encourage students to come regularly to the teacher's office to complete understanding of the lectures.
- Train students with the type of questions on critical thinking rather than memorizing.

- Encourage students to visit your office during office hours for any kind of consultations such as the future job prospects in SA, etc.
- To improve class participation, it will be better if fix some marks for class participation and attendance. (If instructors are allowed to change the evaluation scheme).
- Inspire and reward students for their achievements.
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- Course File must be available by the end of each semester.
- Approved recommendations of previous semester must be implemented.
- Syllabus must be explained to students especially the CLOs.
- Adjusting the contact hours given to the topics based on the instructor needs and approval of the course coordinators.
- Use e-learning tools (blackboard).
- Must inform the students all the time regarding the available office hours and references
- Consider different levels of understanding in your teaching strategies.
- Links for online study material for all important topics in the course should be given to students.
- Organize meetings with the course coordinator to discuss the issues related to the course and the students' learning.
- Implement student centered learning in class which involve the student interactively for every example that has been discussed
- Explain material repetitively whenever requested.
- Receive students in a friendly manner during office hours
- Prepare some activities to improve team work in a good way
- Make relationship between your courses and other courses.
- It will be good if course instructor bring one student in front and ask him to present what studied in today's lecture. This will be very good to boost the student's confidence and improve the presentation skills. Also in this way students will be more active during class time.
- To improve the student's interest in course, it will be better to relate the lecture topic with daily life and also explain how this course will be beneficial for you in future during higher studies or practical life.
- Continually motivate the students to put their energies and efforts towards studies and always boost the student's confidence.
- Encourage students to read course related books, reference books and also take help from internet to get extra knowledge related to course.
- Relate assignments and exams to the text book to encourage students to read the text book.
- Encourage students to attend tutorial classes.
- Force students to submit assignments on time.

- Updating your personal website with all course related documents
- Recapping previous classes for 5-10 min at the beginning
- Motivate students on self-study through sample tests/solve problems.
- Arranging meeting with the student's academic advisor about student's performance at the end of every course assessment
- Some marks must be allotted for plagiarism check to avoid that students did not copy same data from books and internet.

E.3: Actions to be implemented for each specific course.

Course Code	Course Name	Coordinator	Instructor(s)	Section
111CSS-4	Programming Language-1	Dr. ZakariaToukal	Ms. Saira Banu	5
Recommendations/Actions at the course level (Binder 9)				
1) Relate the recognition of C syntax in all lab activities 2) Devote more time to trace and evaluate program and find the error in the program 3) Increase the number of quizzes in the course 4) Students must understand that this course is a gate course in CS and that they must achieve the learning outcomes of the course to pass the course 5) Devote more time to the function related concepts 6) Devote more time to solve the problem using algorithm and flowcharts				

Course Code	Course Name	Coordinator	Instructor(s)	Section
281CSS-3	Computer Graphics	Dr. Addin Osman	Ms. Saira Banu	31
Recommendations/Actions at the course level (Binder 9)				
1) Assignments involving critical thinking and reasoning should be given 2) Debugging, documentation and structuring skills must be considered in all programs written and prepared by students 3) Give more lab oriented activities to the students to become familiar with the graphics programming				

Course Code	Course Name	Coordinator	Instructor(s)	Section
329CSS-3	Data Communication and Computer Networks	Ms. Nyla Khadam	Dr. Mohammed Shargabi	33
Recommendations/Actions at the course level (Binder 9)				
1) Implement a practical project				

Course Code	Course Name	Coordinator	Instructor(s)	Section
380CSS-3	Fundamentals of Database Systems	Ms. Raniah Zaheer	Ms. Soad Mohammed	57
Recommendations/Actions at the course level (Binder 9)				
1) Devote more time to Solve simple queries by using the operations (selection, projection, join, Cartesian product) of the theoretical database language Relational Algebra 2) Devote more time to solve more problems related normalized, well-structured relational data model 3) Devote more time to solve more queries by using SQL				

Course Code	Course Name	Coordinator	Instructor(s)	Section
429CSS-3	Computer Security	Dr. Ghassan Ahmed Ali	Ms. Nyla Khadam	52
Recommendations/Actions at the course level (Binder 9)				
1) Lab should focus on Computer Security tools rather than programming by installing licensed computer security tools in labs.				