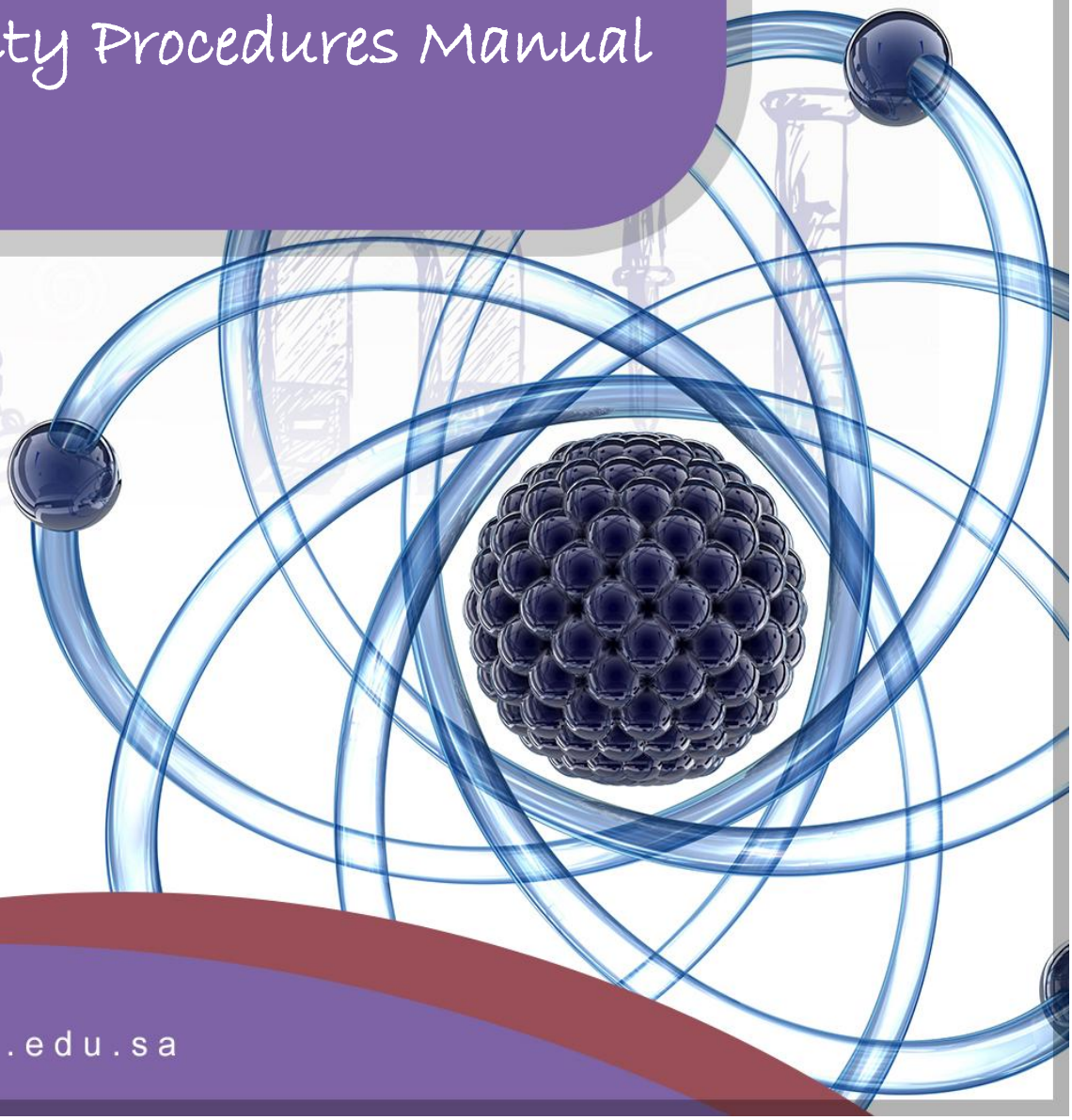
Ministry of higher education
Majmaah university
College of Science
Department of Physics

جامعة المجمعة
Majmaah University
كلية العلوم
قسم الفيزياء

وزارة التعليم العالي
جامعة المجمعة
كلية العلوم
قسم الفيزياء

Physics Program

Quality Procedures Manual



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1- Introduction:

This quality System manual serves as a guide for all programs in the College of Science. The document contains the vice-deanship for quality and development's units and their responsibilities to follow and support the academic programs. Next, the annual repeated scheduled task is tabulated with a time frame. Then, the continuous improvement process is presented and explained to be implemented by academic programs. All quality procedures in the college will be explained in detail as it is an essential for enhancing the quality of the academic programs. All-important references are included in the appendices.

This manual is prepared by the Vice-Deanship of Developing and Quality to be used by all programs as a quality system manual and to unify the quality processes.

2. Vice-Deanship of Developing and Quality (VDDQ)

Quality Vice-Deanship in the college of Science concerns about enhancement and development of the quality and to make it a part of all members' daily life.

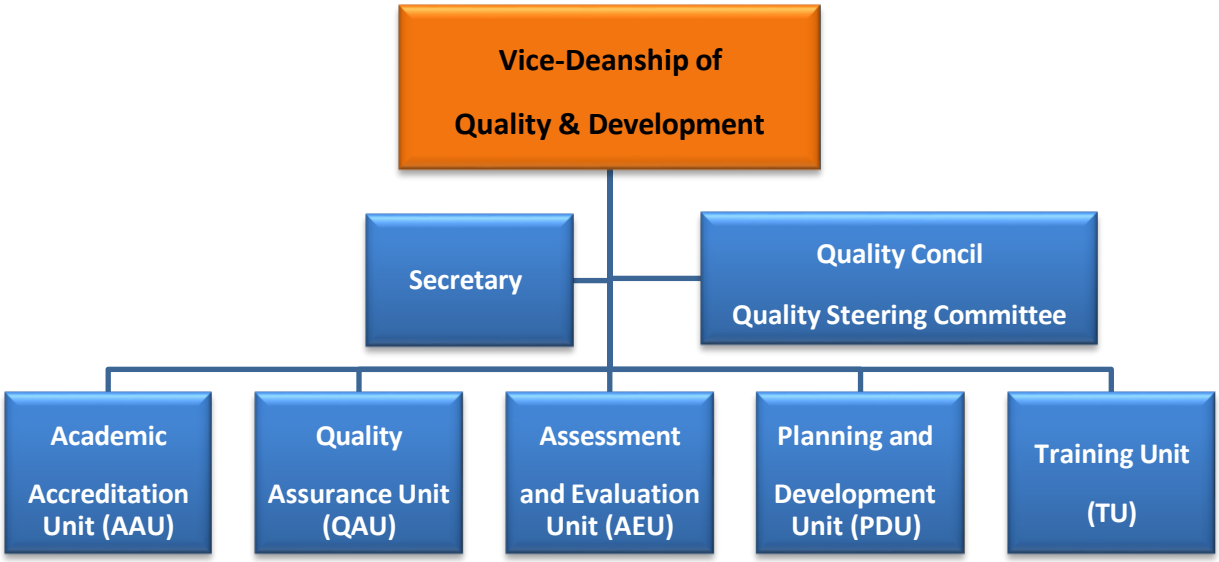
2.1 Mission:

To develop and implement quality strategies those support the achievement of goals and objectives for supporting quality works in College of Science.

2.2 Objectives:

1. Organizing, developing and implementing the quality work in the college of Science
2. To prepare all programs to be accredited nationally and internationally

2.3 Structure of Vice-Deanship for Quality & Development



2.4 Quality Council (Quality Steering Committee)

1. Steering all quality issues in the college
2. Recommending quality plans and programs
3. Supervising all activities in the quality office

2.5 Academic Accreditation Unit (AAU)

1. Steering academic programs for academic accreditation
2. Supervising the implementation of quality standards in all academic programs
3. Organize and documentation of quality work in the college
4. Quality Reports

2.6 Quality Assurance Unit (QAU)

1. Monitor the quality of services provided by the college
2. Develop methods for improving college's performance.
3. Assessment and evaluation
4. Feedback and recommendation

2.7 Assessment and Evaluation Unit (AEU)

1. Assessing, evaluating and analyzing all the quality data in the college
2. Developing automatic assessment and evaluation programs

2.8 Planning and Development Unit (PDU)

1. Planning and developing the quality work
2. Preparing the Operational plan
3. Following the implementation of Quality Operational Plan

2.9 Training Unit (TU)

1. Ensure that there is a strategic plan for the college
2. Improving Web site.
3. Identify the training needs for faculty members and employees in the college.
4. Prepare the training plans and quality educational support for the college with the support of Quality and skills development deanship.
5. Encourage faculty members to participate in the training programs offered by the university.
6. Promote quality culture.

Table 1: Quality Guide Table (Regular Annual and Biannual Quality Work)

Task	Week	Level of Responsibility	Repetition	Description
Program Annual Report	By the end of the Academic Year/16 W	Program	Every year	Using NCAAA updated form
Course Report	By the end of the semester	Program	Every semester	Using NCAAA updated form
Course evaluation survey		Program	every Semester	Results of evaluation should be requested every semester
Program evaluation survey	W12	Program	every Semester	Results of evaluation should be requested every semester
Experience evaluation survey	W12	Program	every Semester	Results of evaluation should be requested every semester
PIs determination and measurement s Report	W14- W16	Program	every year	Program KPIs should be measured and compared to a benchmark
Self- Evaluation Report	W16	Program	every two ears	Using NCAAA updated form
Exit Survey	W14- W16	Program	every Semester	Using approved form for every program based on the PLO for the graduated students
Indirect Assessment PLO surveys	W12- W14	Program	every Semester	to evaluate CLO for the course based on results of used assessment methods (Exams, HW, Quizzes,)
Advisory Board (meetings)	W1- W16	Program	every Semester	achieving a meeting with board of advisors one time every semester to discuss quality and program issues
Submit SSRP for accreditation	Week 3	Program steering committee	one time	All NCAAA SSRP should be submitted to the Academic Accreditation Unit by 1\10\2019 using the

				NCAAA SSRP form
Operational plan academic Program	W1	Program	first semester Every year	The quality committee in the programs encouraged to put its annual quality plan to follow the quality process during the academic year (Assessments, syllabus, …)
Preparing documents for Internal reviewing of academic programs by the deanship of quality and skills development	W6-W8	Programs with supervision n from College Level Quality Assurance Unit	one time	The Reviewing committee from the deanship of quality will review all documents of the program (Program specifications, course specifications, reports, improvement plans…)
Preparing and analyzing results of graduated students and employers	W12- W14	program	Sixth months after graduation	Contact Alumni unit to get data for analysis
uality Deanship internal Audit	W8-W10	College and program		Preparing program documents for internal audit from quality deanship to check their readiness for accreditation

3- Academic Program Improvement Process

All improvement processes are based on PDCA (Plan – Do – Check - Act)

3.1 Program Improvement

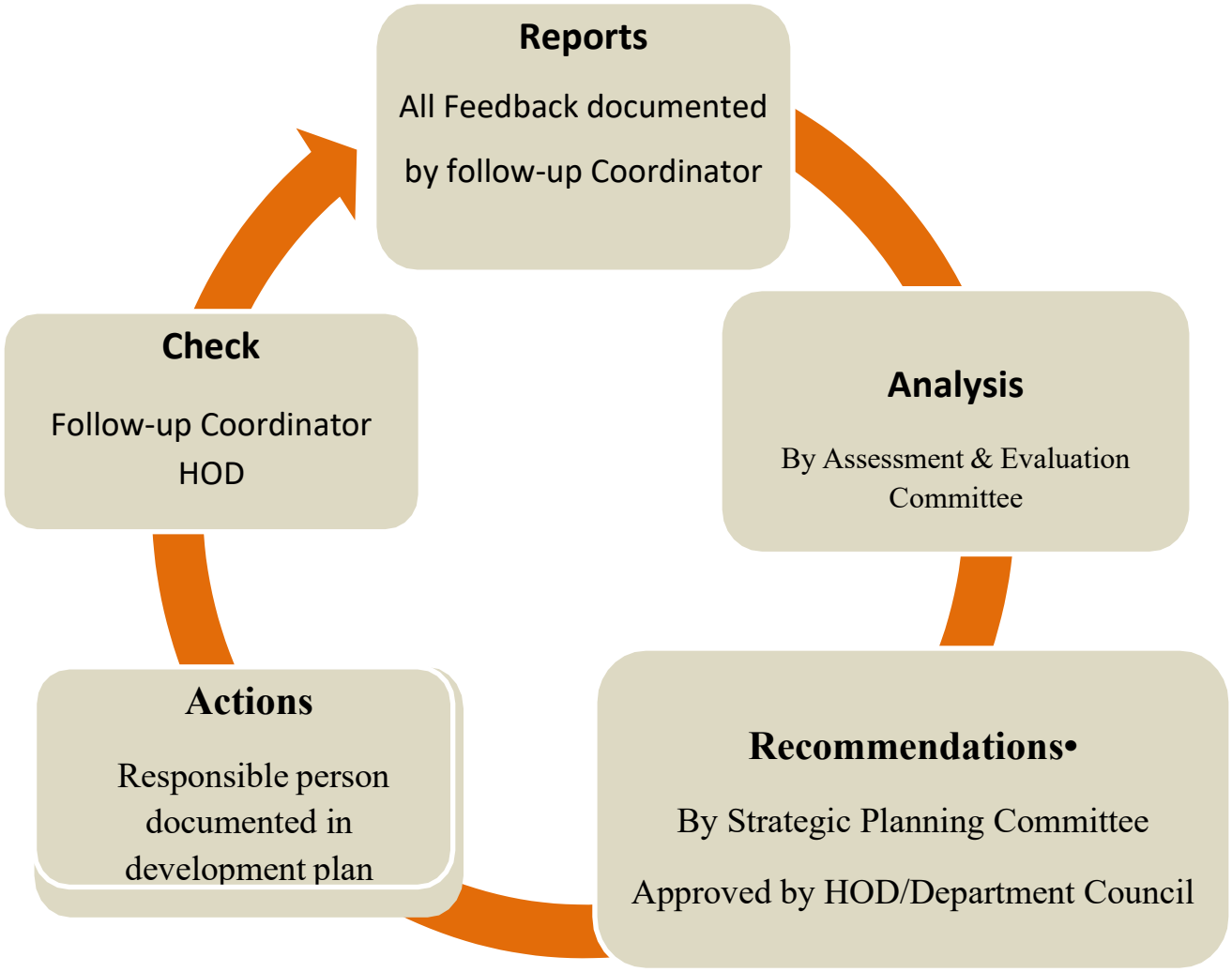
Development Plan [Regularly]

Purpose: Development plan for continues improvement of the programs.

Policy: All feedback reports must be considered for continues development

Responsibility: Follow-Up Coordinator, Strategic Planning Committee and HOD.

Flow Chart



Feedback Report:

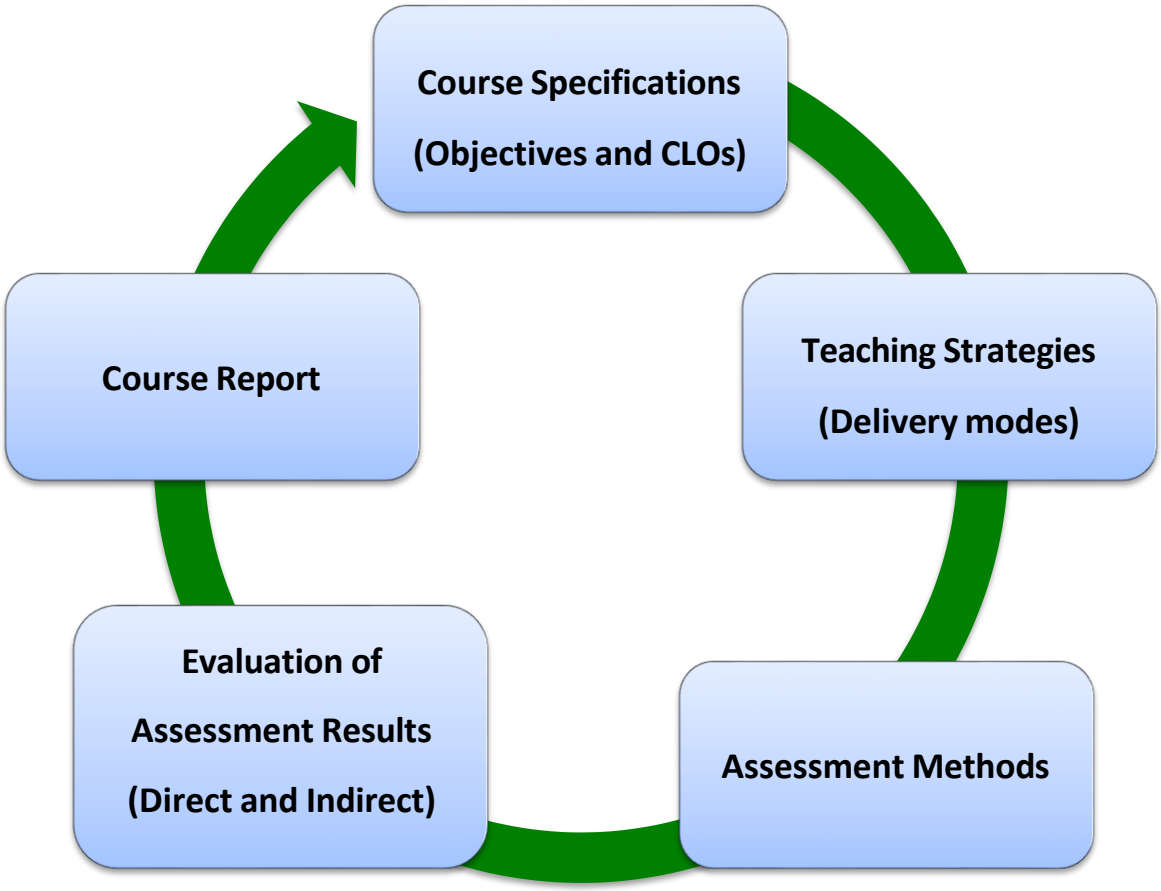
Annual Program Report

- Internal Review/ External Review/ KPI Report/ Board of Advisor feedback
- Course Reports
- Annual Department Report
- Any report during the semester

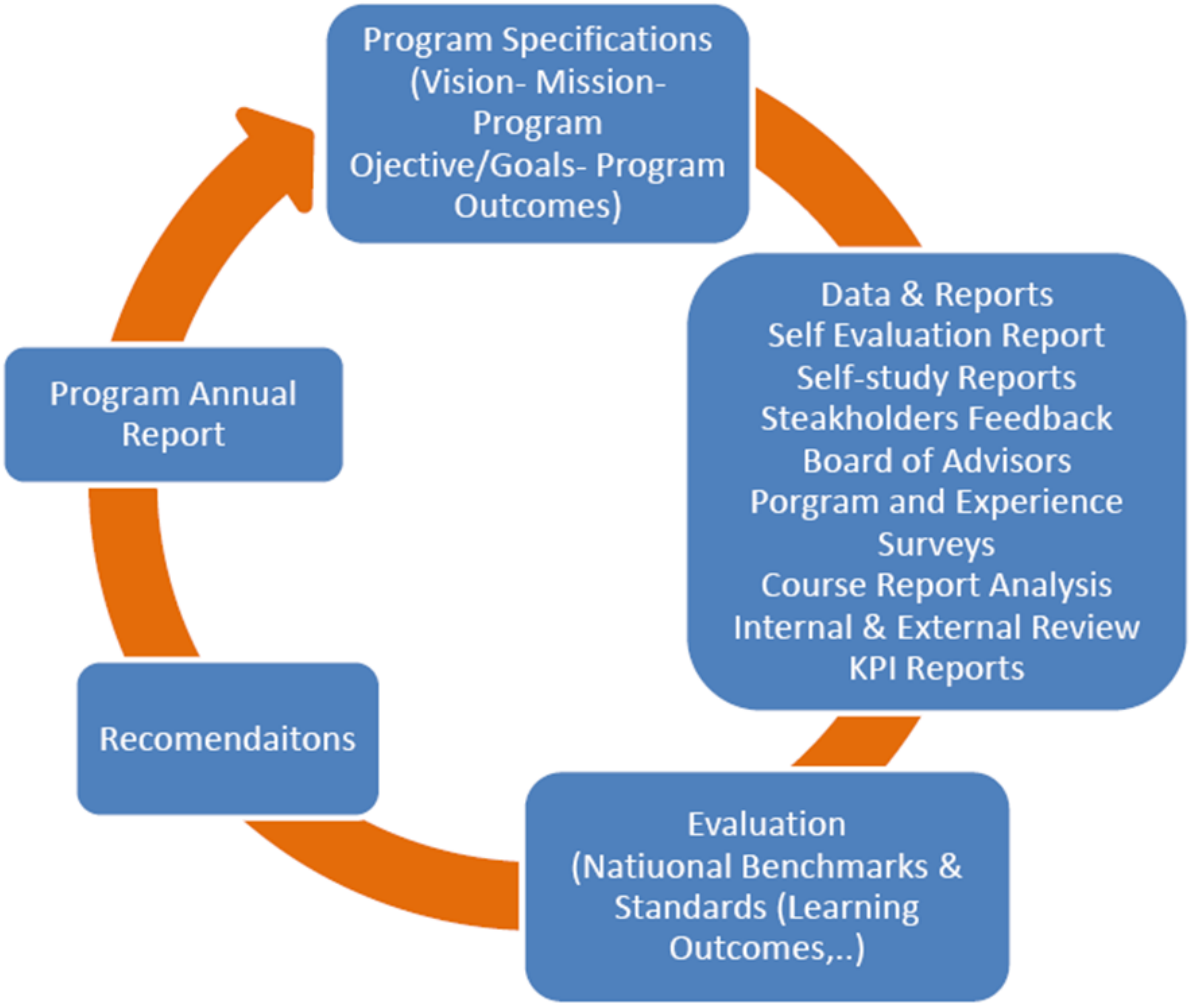
Forms:

- Report Records
- Follow-Up Table

3.2 Course Improvement Process (Annually)



3.3 Program Improvement Process [3-5 Years]



4. Quality Assurance Process

4.1 Bi-annual Quality Assurance Auditing

4.1.1 Program Quality Assurance Committee

Quality Assurance Committee in each program is responsible of performing a regular check on the quality of documents and services provided by the program. This is carried once each semester using approved forms by the Vice-deanship of Quality and Development. These forms are used to evaluate the quality of the important documents and reports such as course reports, course specification and annual program report.

4.1.2 Quality Assurance Unit in VDQD

Quality Assurance Unit (QAU) at Vice-deanship of Quality and Development performs a bi-annual review to make sure that quality of documents and services provided by programs meet the predetermined standards. For this purpose, QAU review the documents, ask for evidences, check programs facilities, and arrange meetings with different beneficiaries to evaluate the quality of documents and services provided by the different programs in the College of Science.

4.2 Annual Internal Review

This is the second reviewing process, which is an annual review and more comprehensive than the bi-annual Quality Assurance Auditing. The internal review process is carried out once per year under supervision of the Vice-Dean of Quality and Development for the main purposes of assessing and evaluating the quality of services offered by academic programs in the College of Science. In addition, the review checks also the readiness of programs for academic accreditation. The review team members of internal review process include the Vice-Dean of Quality and Development, the Coordinator of Academic Accreditation Unit, the Coordinator of Assessment and Evaluation Unit, and Coordinator of Quality Assurance Unit. The internal review process is a comprehensive and focused review of all quality documents and all services provided by the programs. Detailed review reports are prepared with suggestions and recommendations to the concerned programs. These feedbacks are used by program coordinators in development plans to improve the services provided by their programs.

5 Procedures

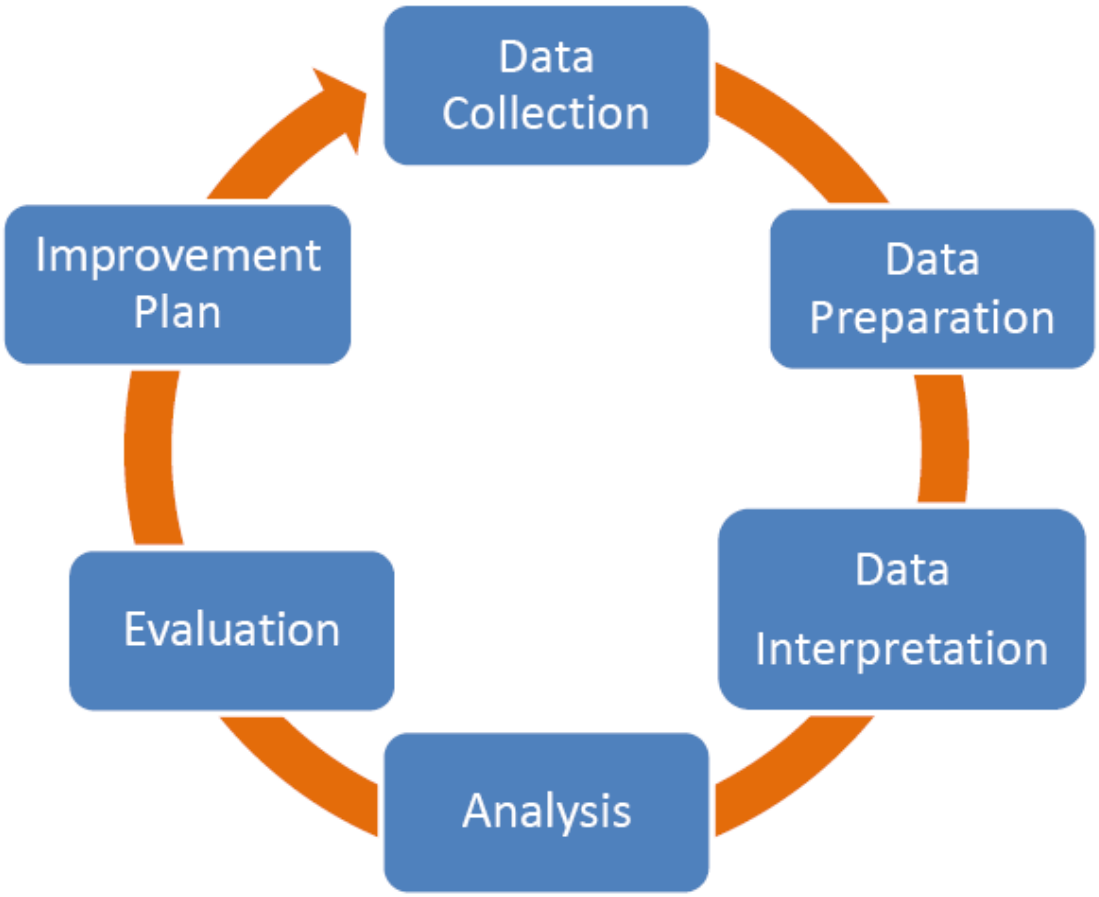
5.1 Assessment & Evaluation:

Purpose: To provide programs, units with analysis for further recommendations, writing action plans and for improvement issues.

Policy: To collect all data from reports, surveys results, comments, notes to analyze and writing recommendation

Responsibility: Assessment and Evaluation Unit (Committee)

Flow Chart



5.2 Regulations of Majmaah University

Purpose: Directing the students and behaviour of students, within the university to appropriate behaviour.

Policy: Re-direct (Reclamation) students who do not follow the rules and regulations using the available tools in the university

Flow Chart

Regulations of Majmaah University

Types of Punishments	If any regulation of the university is broken, student will be accounted and punished according to the university rules	Students must follow all the regulations of the university without prejudice to any rules or regulations No excuse about that at all.	Student's responsibility to know all university regulations
Written warning Stimulation verbal or written pledge Banned of entry test Block the services related to the student Suspension from study Banned from the university award pay the cost of repair			

Forms:

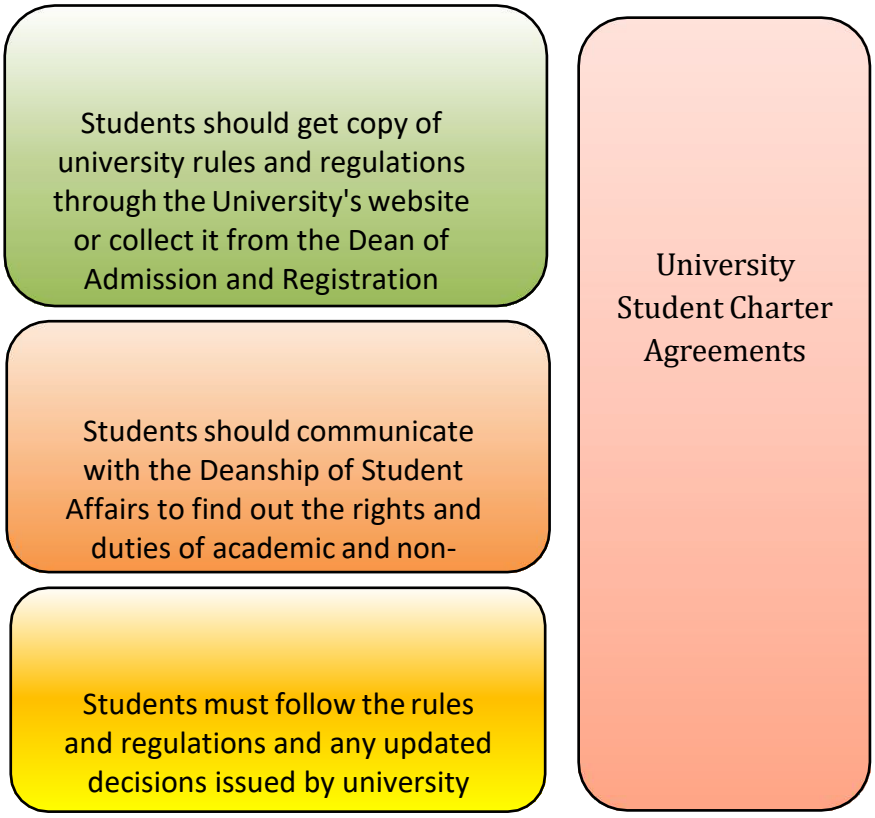
https://www.mu.edu.sa/sites/default/files/content/2017/01/1_3.pdf

5.3 University Student Charter -Agreements

Purpose: Inform students about their rights and duties at the university

Policy: Inform the students, faculty and staff members with the students' rights and duties.

Flow Chart:



Forms:

University Student Charter Agreements

5.4 Terms and Conditions for Acceptance Study of Visiting Student

Purpose: Studying some courses at another university or at a branch of the university without transferring to that university.

Policy: Visiting student who is studying some courses at another university or at a branch of the university without transferring to that university. The studied courses credit in accordance with the university regulations.

Flow Chart:

Terms and conditions for Acceptance Study of Visiting Student
• Student must get prior approval from the host college/university to allow him to study as visiting student and identify the courses that will be studied • Student must complete at least one semester with good result (GPA) before to apply to study as visiting student • The study be in accredited university or college • The course intended to be studied in other university must • be equivalent to course that included in the student graduation program • The equivalent course mark will not be calculated within the cumulative results (GPA), but will be recorded in the completed courses list. • The maximum number of credit hours that student can take from other university is 20% from total credit hours of student graduation program. Article 42 of the Consolidated University must be taking into considerations. • The maximum number of semesters that student allows to study as a visiting student are two semesters • Student must provide the Admission and Registration Deanship with results obtained for the course studied in the other university within first week in the following semester

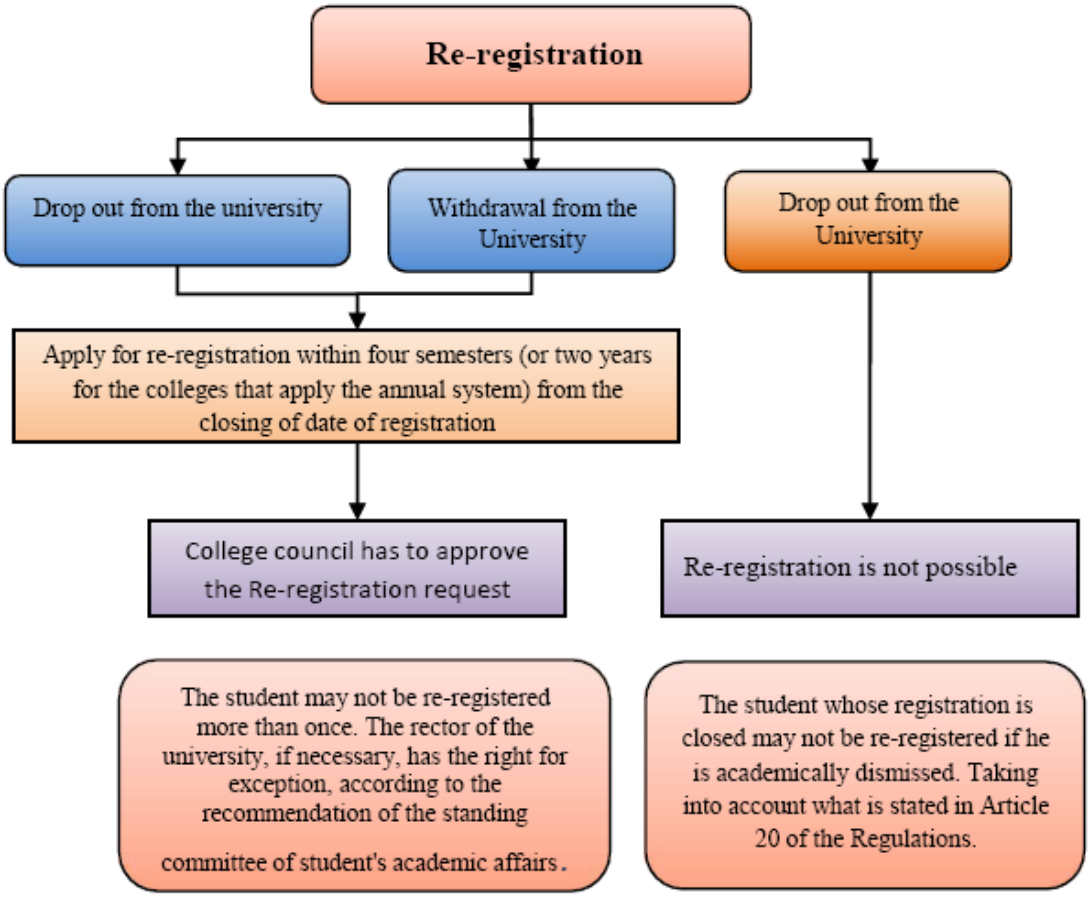
Forms:

Study a Course at another University Form
Final Exam Mark-Objection Form

5.6 Re-registration

Policy: The student whose registration is closed can apply to his college for re- registration with his number and file, before dropping out

Flow chart:



Forms:

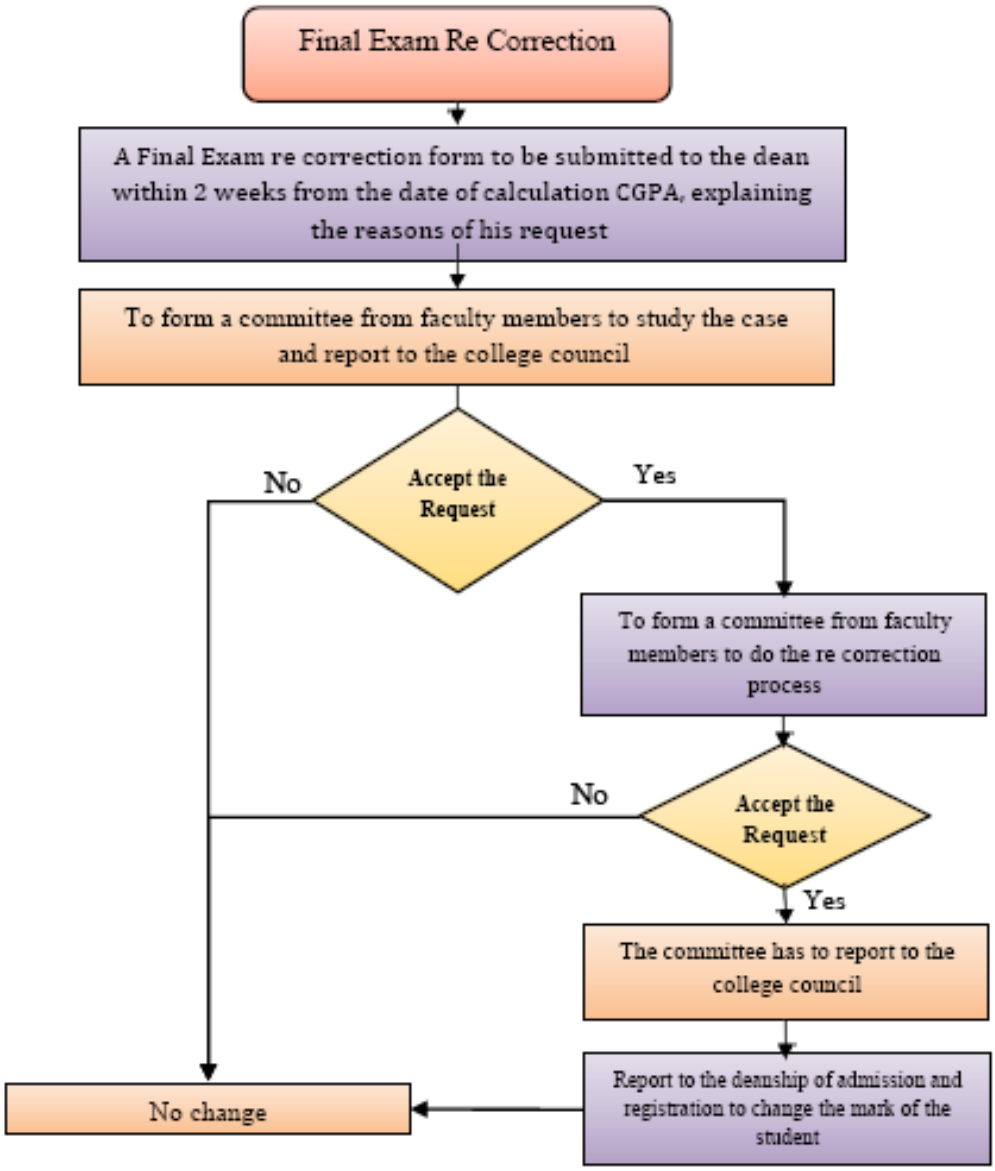
Undergraduate Study and Examination List

5.7 Final Exam Re Correction

Purpose: Final Exam Re Correction

Policy: To form a committee from faculty members to study the case and report

Flow chart:



Forms:

Final Exam Re-Correction Form

Study and University Exams Forms

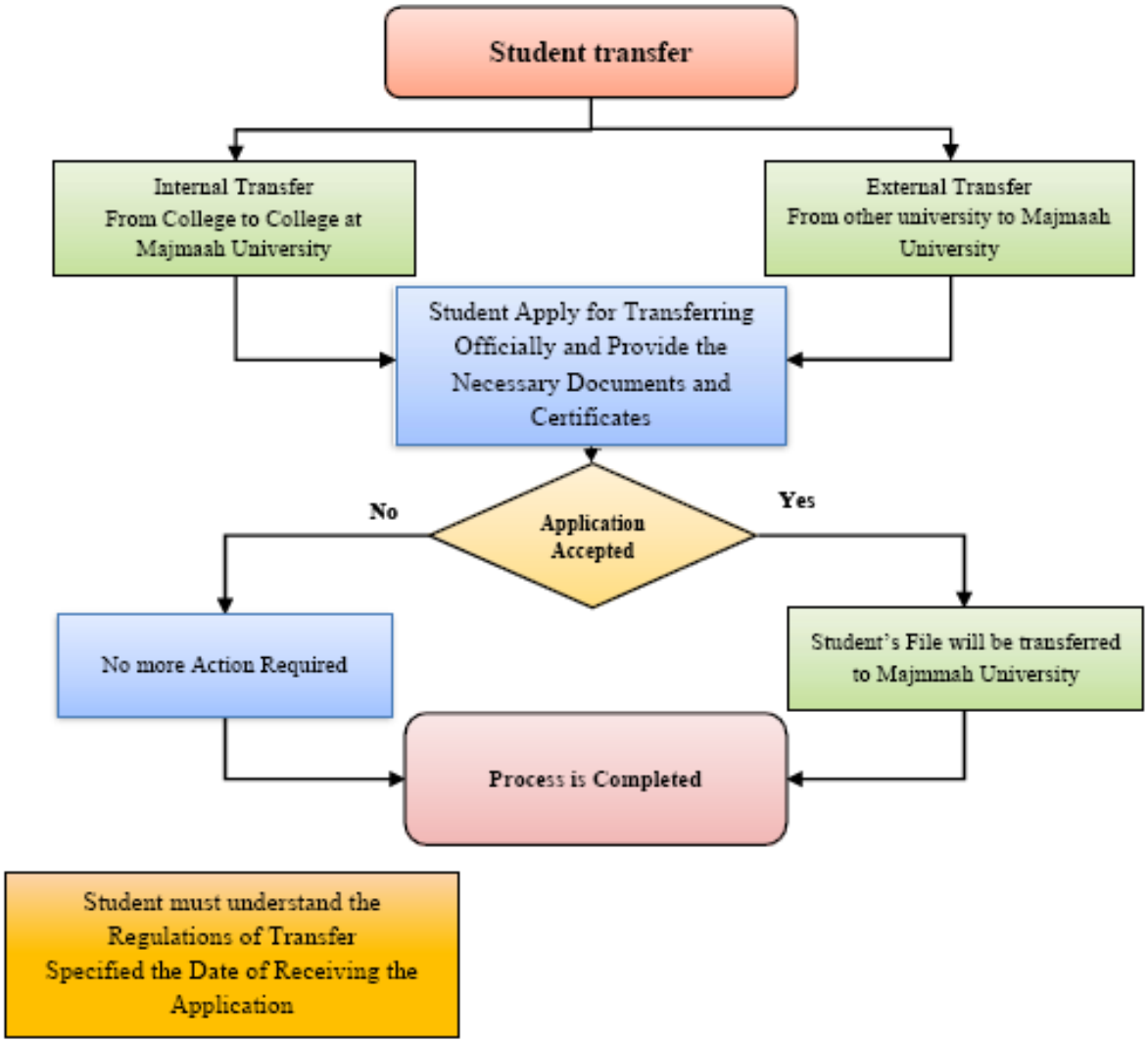
5.8 Student Transfer from College to College

Purpose: Student transfers from college to college at Majmaah University or from other Universities to Majmaah University.

Policy: Student should apply for transfer from college to college at right time with the necessary certificates and documents.

Responsibility: College and Deanship of Admission and Registration provide

Flow Chart



Forms:

Transfer Form

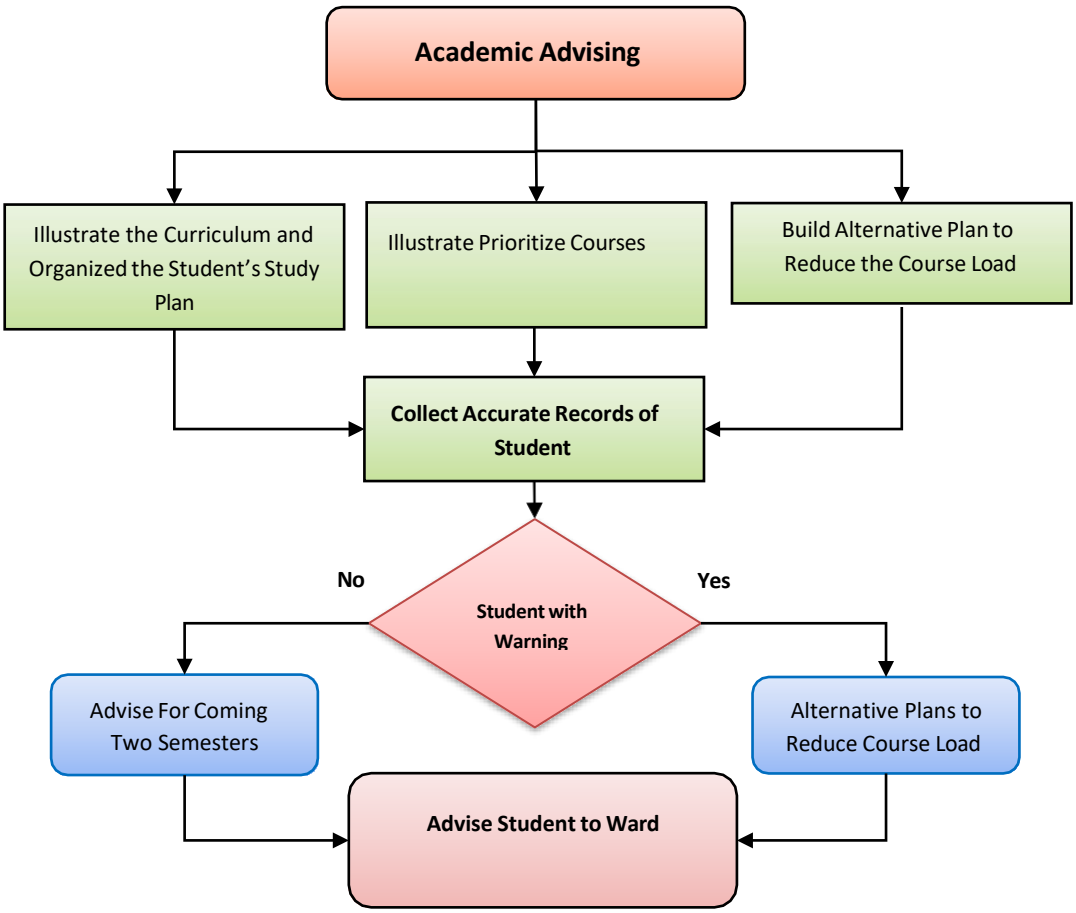
5.9 Academic Advising

Purpose: the academic advisor must meet students and illustrate the curriculum and organized study plan, identified earlier potential problems the student might face and guide the student to ward a successful completion of the curriculum.

Policy: the academic advising day will be held every semester on Wednesday of the eight week of the semester. Student must come to his advisor with the complete accurate information. Advisor must be available in their office from 8:00 am to 3:00 pm.

Responsibility: academic advisor

Flow Chart:



Forms:

Academic advising Day

Regulations of Academic Advising

Academic Advising Form

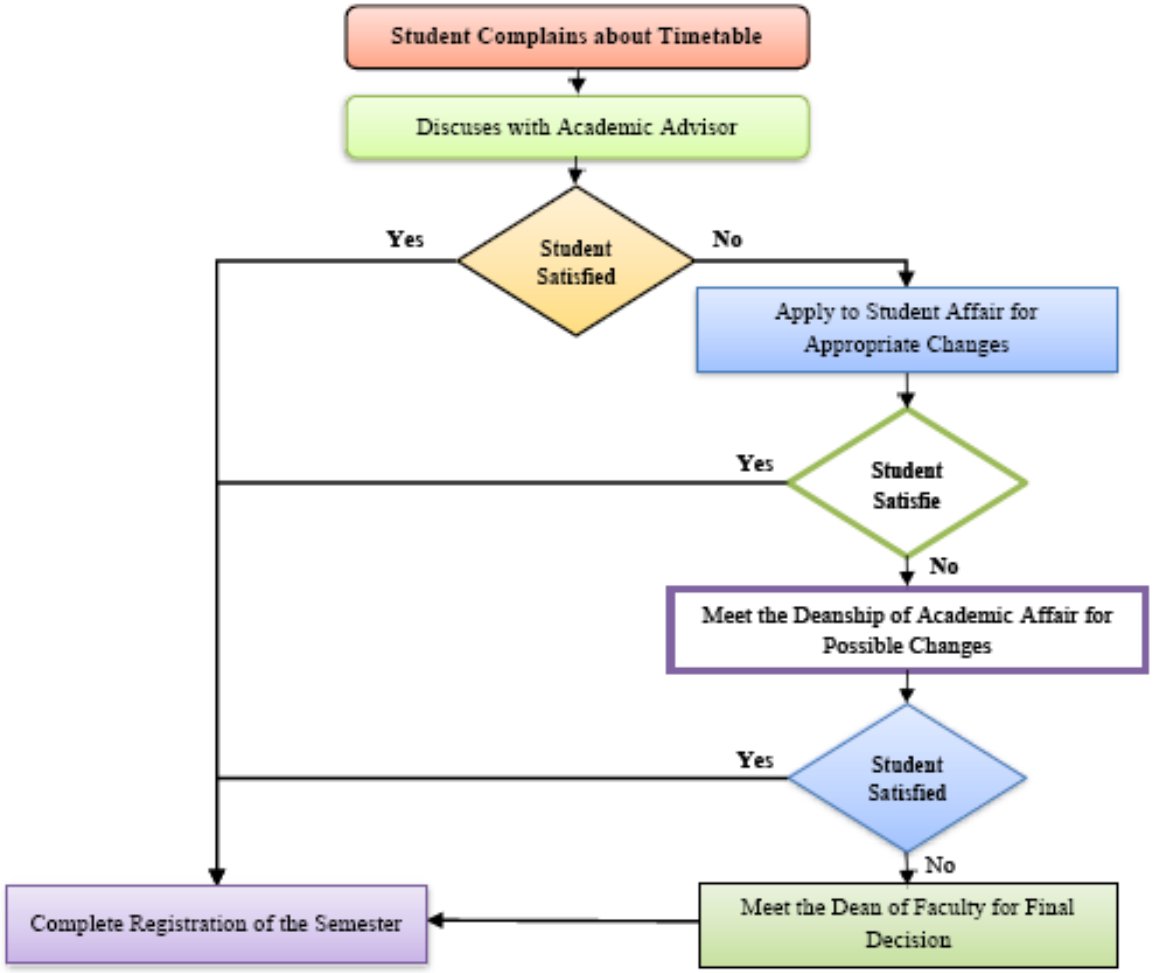
5.10 Student Complains about Timetable

Purpose: When student does not satisfied about timetable, students should with academic advisor and student affairs for possible changes and arrangements.

Policy: student should discus with the academic advisor to make suitable arrangements for student's timetable.

Responsibility: Academic advisor

Flow Chart



Forms:
Time table Conflict Form

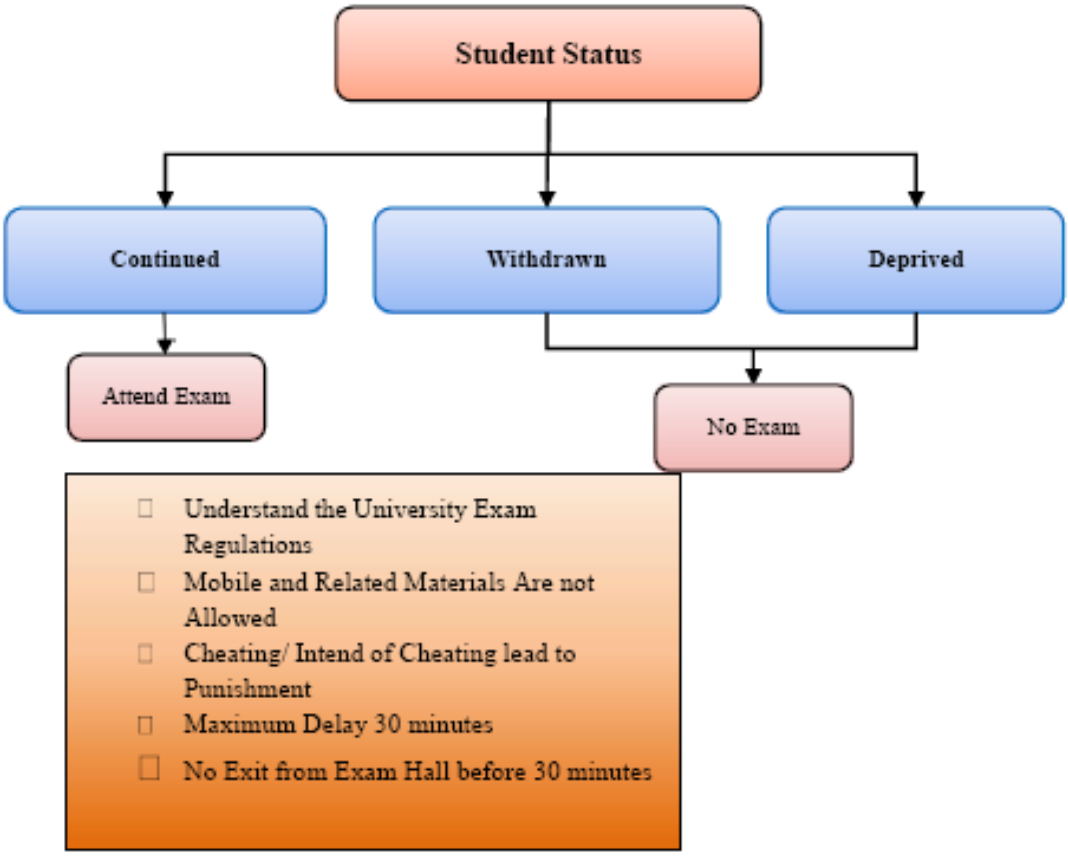
5.11 Student Exam

Purpose: understanding the university exam regulations

Policy: student must follow the exam regulations

Responsibility: Examination Committee

Flow Chart



Forms:

Exam Regulations

Final-exam instructions

Regulations for Cheating Cases

Disobeying of Exam Regulations Reporting Form

Statistics of Number of Students and Grades

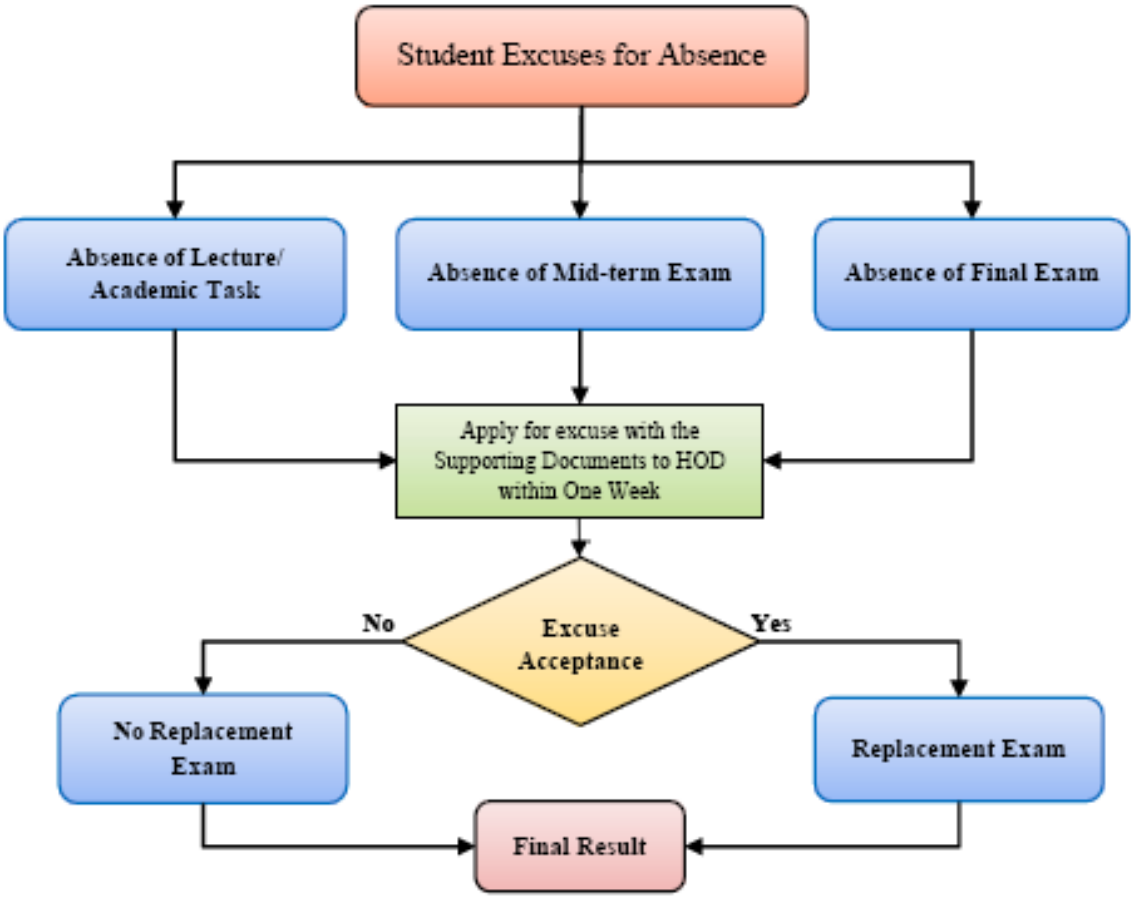
5.12 Student Excuses for Absence

Purpose: When absence is unavoidable, students should report the reason to the HOD to have replacement lecture/assignment/exams.

Policy: Class Instructors have no obligation to make special arrangements for students who have been absent unless the student has an institutional excuse that approved by HOD.

Responsibility: Committee and H.O.Ds.

Flow Chart



Forms:

Absence Excuse Form

Midterm Exam Absence Excuse Form

Class Absence Excuse form

Final Exam Absence Excuse Form

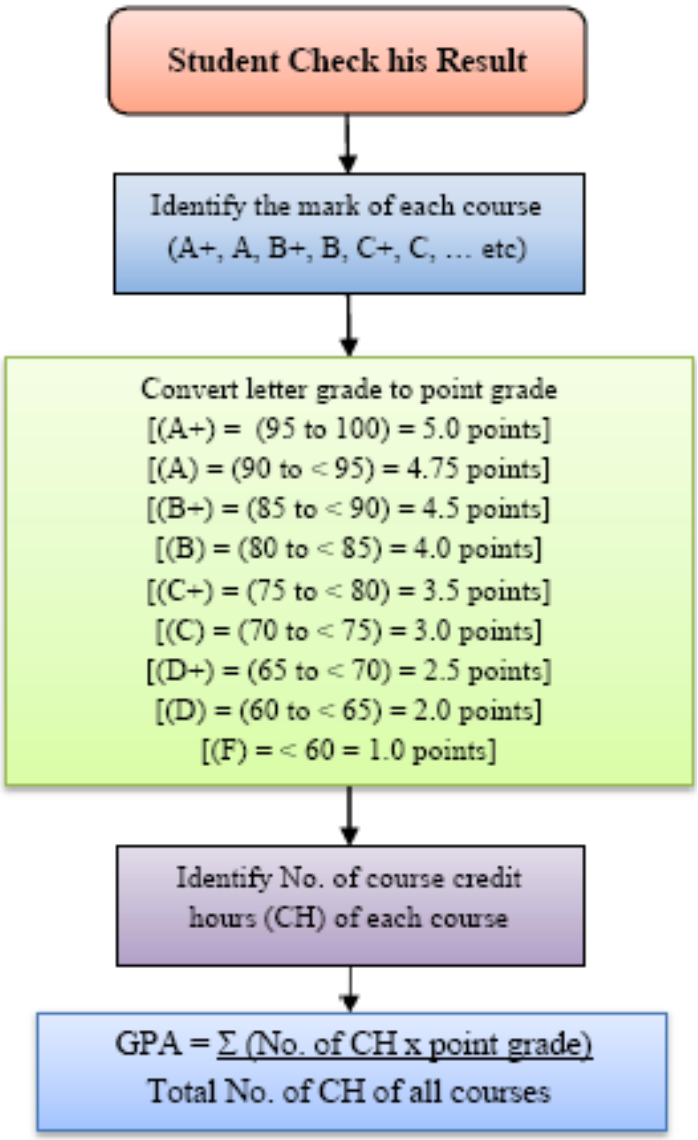
5.13 How to calculate your GPA

Purpose: The grade point average GPA is a weighted average of the grades of the courses attempted by the student

Policy: The GPA is a point summary of the grades accumulated over all courses.

Responsibility: Student

Flow Chart



Forms:

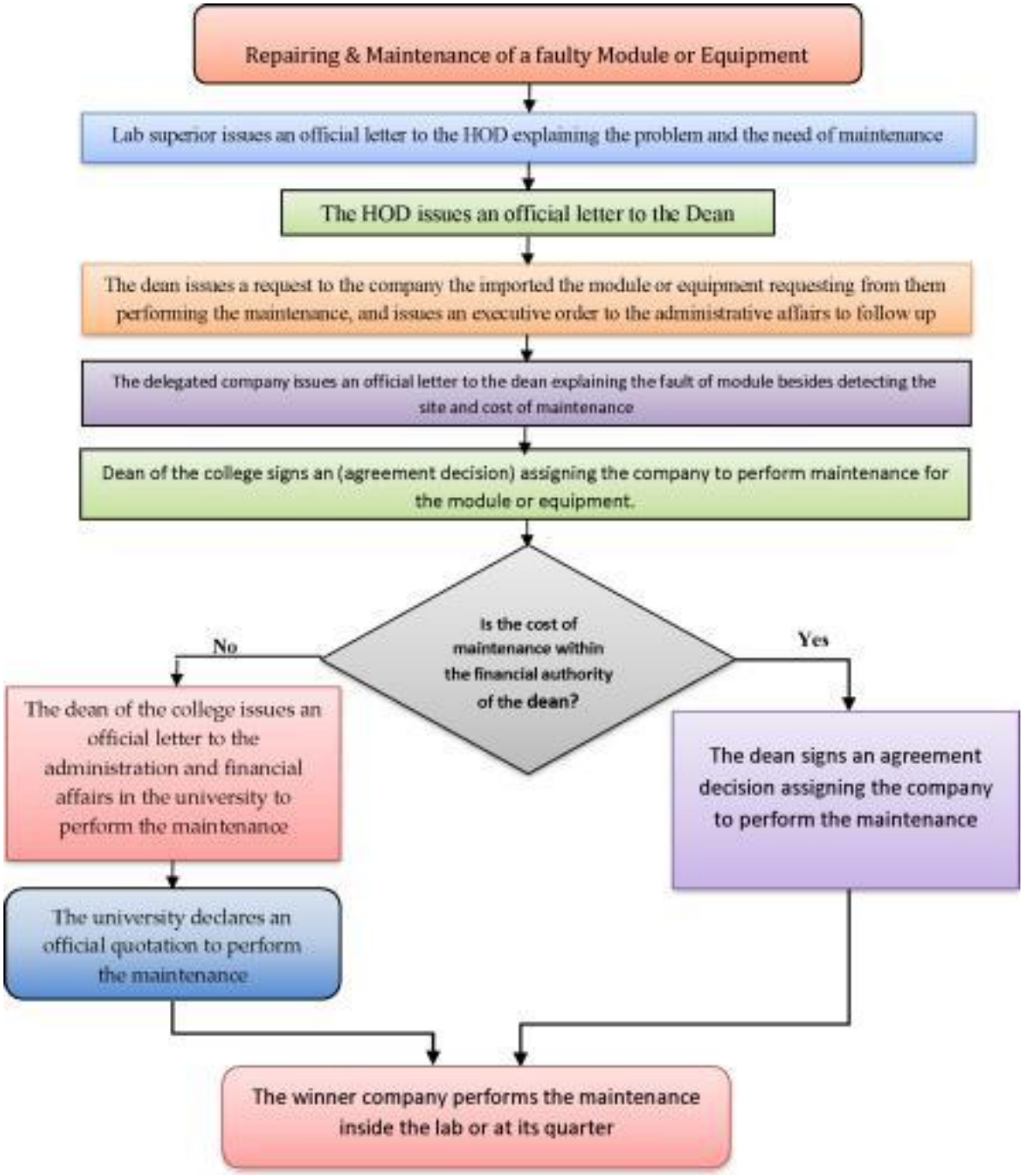
GPA calculation

5.14 Repairing & Maintenance of a Faulty Module or Equipment

Purpose: to provide faculty and stuff with appropriate knowledge to repair or maintain of faulty module or equipment

Responsibility: Dean of the college, HODs, lab supervisors, administrative staff

Flow Chart



5.15 Verification of Standards of Student Achievement

5.15.1 Students Awareness of Assessment Practice

At the beginning of each semester, the instructors at the electrical Science program are advised to distribute their courses' syllabi to the intended students.

First, the instructor explains the course learning outcomes (CLOs) for the intended course

and student learning outcomes (PLOs) associated with each one of them.

Table 2: Program Learning Outcome

Knowledge and Understanding	
K1	Recognize the knowledge of fundamental concepts in classical physics (mechanics, electrodynamics, thermo-dynamics, vibrations, waves and optics) and modern physics (quantum, atomic and molecular, nuclear, elementary particle and solid-state physics)
K2	Mention the importance of modern scientific theories and techniques in physics, their inherent relationship, and their mathematical formulation
Skills	
S1	Apply experimental practical skills in physics to analyse, evaluate and interpret scientific and laboratory data to solve physics problems for sustainable use of energy and materials.
S2	Develop the skill for analyzing/solving the physics-based for sustainable use of energy and materials.
S3	Employing digital technologies with optimal efficiency to develop physics problem-solving skills.
S4	Communicate and work effectively in groups as well as individually
Values, Autonomy, and Responsibility	
V1	Be aware of professional and ethical responsibilities
V2	Enhancing a sense of community and belonging by striving to achieve excellence in teaching and performance-based research
V3	Establishing effective partnerships with all relevant segments of society.

Later, the instructor informs the students about methods of assessments for CLO, the maximum score and the week of assessment as shown in Table 2

	Assessment task	Week Due	Proportion of Total Assessment
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment

1	First exam*	6-7	15%
2	Second exam*	11-12	15%
3	E-exam	13	30%
4	Small Project	One/ semester	
5	Homework	Every week	
6	Quizzes	End topics	
7	Discussions	Every week	
8	Final exam*	At the end	40%

5.15.2 Verifying Standards of Student Achievement

The electrical Science department has established the Assessment and Evaluation Committee (AEC). One of its tasks is to propose various approaches to facilitate the verification of students' achievements. Here we list four tasks that relate to the quality level in the program.

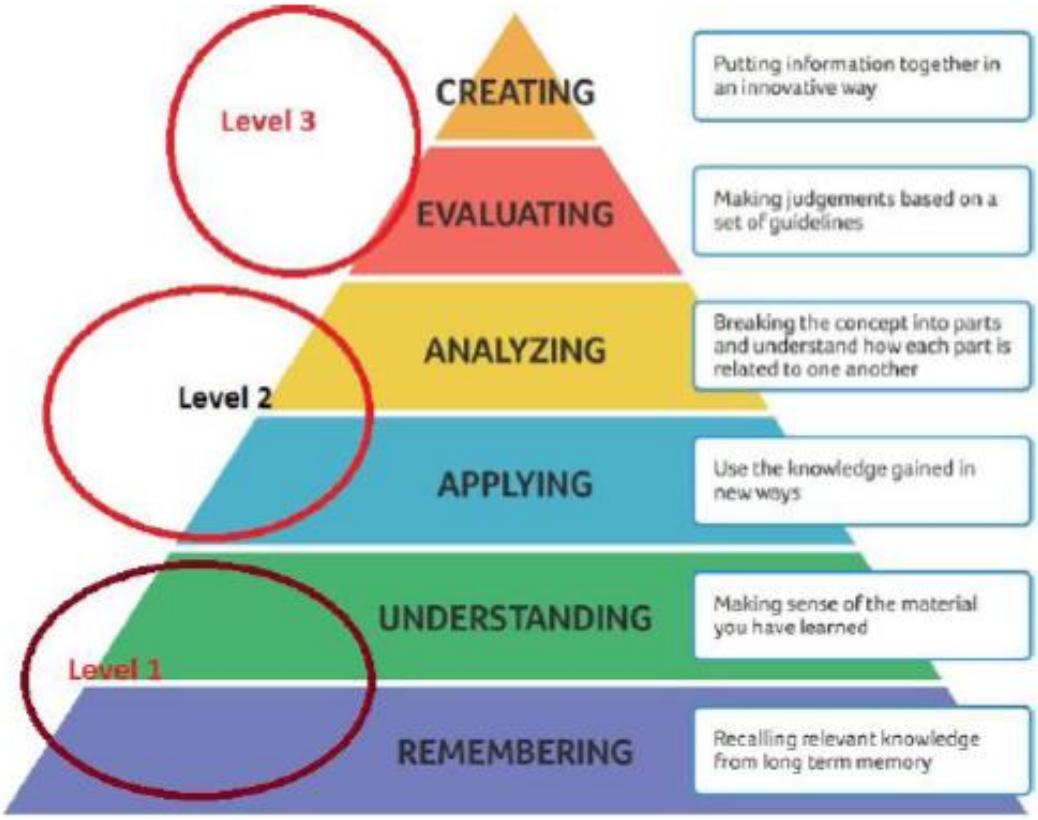
5.15.3 Exam Self-Evaluation

All instructors at the electrical Science program are asked to self-evaluate their exams before and after of each major exam. The evaluation is based on the Bloom's taxonomy as shown in Table 4. The instructor should fulfil the following points:

- All questions in the exam must assess and evaluate the objectives.
- The weight of the marks should be distributed evenly per the objective.
- All the materials must be covered in the exam.
- The level of the questions should be per Bloom's taxonomy.
- The targeted difficulty levels of all the questions should be satisfied.
- The questions should provide good discriminations among students.

Table 4: Bloom's Taxonomy

Table 4



To make it easy for instructors to satisfy these requirements, the AEC provides the instructors the exam self-evaluation template shown in Table 5. The table is divided into two sections. The first section is to be filled before the exams where the instructor should make sure that his exam satisfies Bloom's taxonomy evenly.

After the exam, the difficulty level and discrimination index are calculated using analysis of exam results template shown in Table 6. *The Difficulty index* (*P*) *shown in Table 7* is a measure of a proportion of examinees who answered the question correctly. Generally, the average difficulty index should be controlled near 0.7. If *P* is more than 0.75, it indicates that the exam is quite easy. While *P* is less than 0.45, it indicates the exam is rather difficult.

Table 5: Course Self-Evaluation

#	*Course Self-Evaluation*	Previous year		Current year	
		1St Term	2nd Term	1St Term	2nd Term
1	**Course Specification** according to the Last updated template (NCAAA) .				
2	**Samples of assignments, coursework, and quizzes** used for formative assessment during the semester				
3	**Midterm Exams**, including student samples representing **High, Low, and Average** achievement levels				
4	**Final Examination** paper along with the **Model Answer** (Answer Key)				
5	**Final Exam samples**, including student scripts representing **High, Low, and Average** achievement levels				
6	**Grade Sheets** (Class Records/Mark Sheets)				
7	**Course Report** for the specified semester, according to the Last **updated template**				
8	**Learning Outcomes Assessment File** (**CLO** Measurement)				

5.15.4 Course Score Summary

At the end of each semester, each instructor submits the statistics for each course to the AEC. The statistics include the number of registered, banned and withdrawn students.

Later, the results are analyzed based on percentage of passed and failed students, maximum, minimum and average marks as shown in Table 8.

Table 7: Course Statistics

Course Name	Course Code	Number of Students					Result Analysis				
		Registered	Banned	Withdrawn/E	Regular	Attended	Passed	Failed	Average	Max.	Min.

							No	%	No	%	Mark	Mark	Mark

- Instructor awareness check list (Internal Review)
- Instructor (course delivery list: CLO given, syllabus)

5.16 Appendix A: Main definitions

Academic Program:
A combination of courses and/or requirements leading to a degree or certificate.

The quality of academic program:
Is a way of describing how well the learning outcomes available to students help them to achieve their award. It is about making sure that appropriate and effective teaching, support, assessment and learning opportunities are provided for students.

Program objectives:
Statements describing the results to be achieved, and the manner in which they will be achieved

Learning outcome:
What the student will know or will be able to do as a result of passing the Academic program.

Course outcome:
What the student will know or will be able to do as a result of the course delivery.

Teaching strategy:
refers to methods used to help students learn the desired course contents and be able to gain skills and to develop achievable goals in the future

Assessment methods:
refers to the wide variety of methods or tools that educators use to evaluate, measure, and document the academic readiness, learning progress, skill acquisition, or educational needs of students

Benchmarking:
It is a way to judge the quality or the performance of other the academic program through comparing its KPIs with best practice programs in other institution

Program specifications:

It is a quality document guide that specify the academic program's Vision, Mission, objectives, KPIs…etc. to achieve goal and objectives of the program

Course specifications:
It is a quality document guide that specify the academic courses, objectives, CLOs…etc. to achieve the objectives of the program

Annual program report: Course Report:
Direct Assessment: Indirect Assessment: Improvement process: