



# PROCEDURES MANUAL

## COLLEGE OF ENGINEERING



College of Engineering  
Vice Deanship for Quality & Development

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# Procedures Manual

<b>Title: Procedures Manual</b>		
Doc.# 6/1/3/R101/3	Version: 1	Date: 19/4/2017
<b>Recommended:</b> Vice Dean for Quality & Development		
<b>Recommended:</b> Vice Dean for Academic Affairs		
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Dean of College of Engineering		

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## I. Introduction

This quality manual serves as a guide for all procedures in the College of Engineering. The document will introduce the vice-deanship for quality and development's units and responsibilities. Next, the annual repeated scheduled task is tabulated with a time frame. Then, the continuous improvement process is presented. Following that, all procedures in the college will be explained in details. In addition, important references are included in the appendices.

## II. Vice-Deanship of Developing and Quality (VDDQ)

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

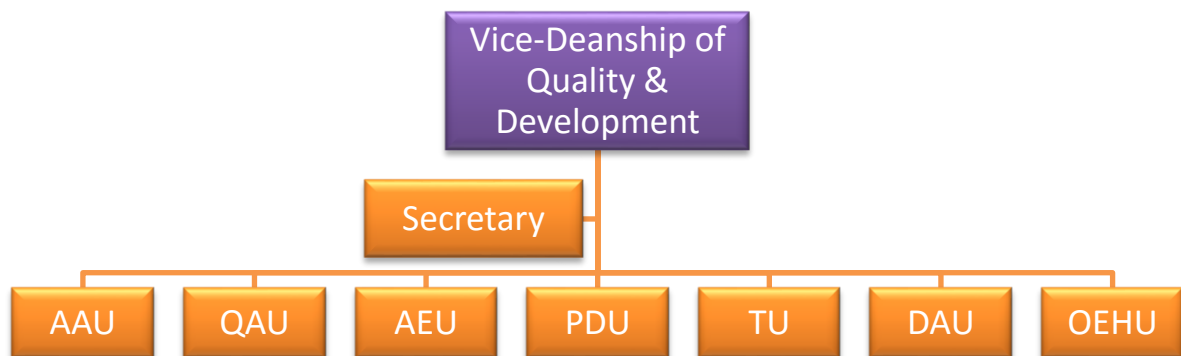
### Mission:

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

### Objectives:

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

### Structure of Vice-Deanship for Quality & Development



### 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

### 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

### **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

### **Assessment and Evaluation Unit (AEU)**

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

### **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

### **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.

### **Documentation and Archiving Committee (DAU)**

1. Identification of required data
2. Data Collection
3. Data processing and preparation with statistical analysis
4. Archiving and database management
5. Unifying documents and forms in the college of engineering

### **Occupational and Environmental Health Unit (OEHU)**

1. Evaluating the Labs conditions based on the University Department of Occupational and Environmental Health
2. Meeting the OHSAS 18001 standards
3. Distribution of Occupational and Environmental Health culture in the college

### III. Quality Guide Table (Regular Annual and Biannual quality work)

Task	Week	Repetition	Description
<b>Program Annual Report</b>	By the end of the Academic Year/16W	Every year	Using NCAAA updated form
<b>Course Report</b>	By the end of the semester	Every semester	Using NCAAA updated form
<b>Course evaluation survey</b>	12W	every Semester	Results of evaluation should be requested every semester
<b>Program evaluation survey</b>	12W	every Semester	Results of evaluation should be requested every semester
<b>Experience evaluation survey</b>	12W	every Semester	Results of evaluation should be requested every semester
<b>KPIs determination and measurements Report</b>	14W-17W	every year	Program KPIs should be measured and compared to a benchmark
<b>Self-Evaluation Report</b>	W16	every two ears	Using NCAAA updated form
<b>Exit Survey</b>	W14-W16	every Semester	Using approved ABET form for every program based on the SLO for the graduated students
<b>Indirect Assessment ABET SLO surveys</b>	W12-W14	every Semester	to evaluate CLO for the course based on results of used assessment methods (Exams, HW, Quizzes,)
<b>Advisory Board (meetings)</b>	W1-W16	every Semester	achieving a meeting with board of advisors one time every semester to discuss quality and program issues
<b>Submit SSR for accreditation</b>	1\10\2016	one time	All ABET preliminary SSR should be submitted to the Academic Accreditation Unit by 1\10\2016 using the ABET SSR form
<b>Operational plan of the quality unit (committee)</b>	W1 of the first semester	Every year	The quality committee in the program is encouraged to put its annual quality plan to follow the quality process during the academic year (Assessments, syllabus, ...)
<b>Preparing documents for Internal reviewing of academic programs by the deanship of quality and skills development</b>	W6-W8	one time	The Reviewing committee from the deanship of quality will review all documents of the program (Program specifications, course specifications, reports, improvement plans...)
<b>Preparing and analyzing results of graduated students and employers</b>	W12-W14		Contact Alumni unit to get data for analysis



## IV. Academic Program Improvement Process

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

### A. Program Improvement

#### a. 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:

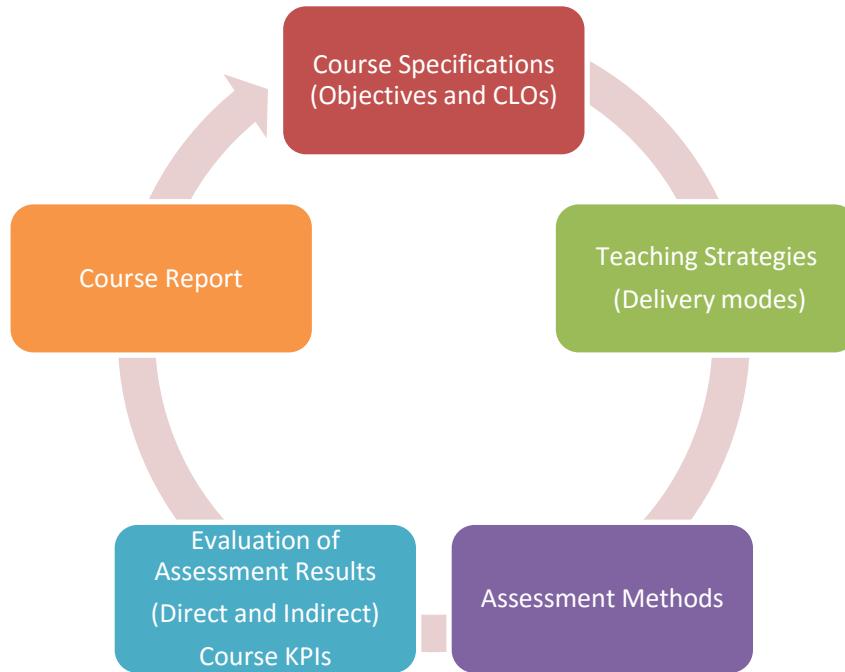
- Annual Program Report
- Internal Review/ External Review/ KPI Report/ Board of Advisor feedback
- Course Reports
- Annual Department Report
- Any report during the semester

#### Forms:



- Report Records
- Follow-Up Table

## b. Course Improvement Process (Annually)



## B. Program Improvement Process [3-5 Years]



## V. Procedures

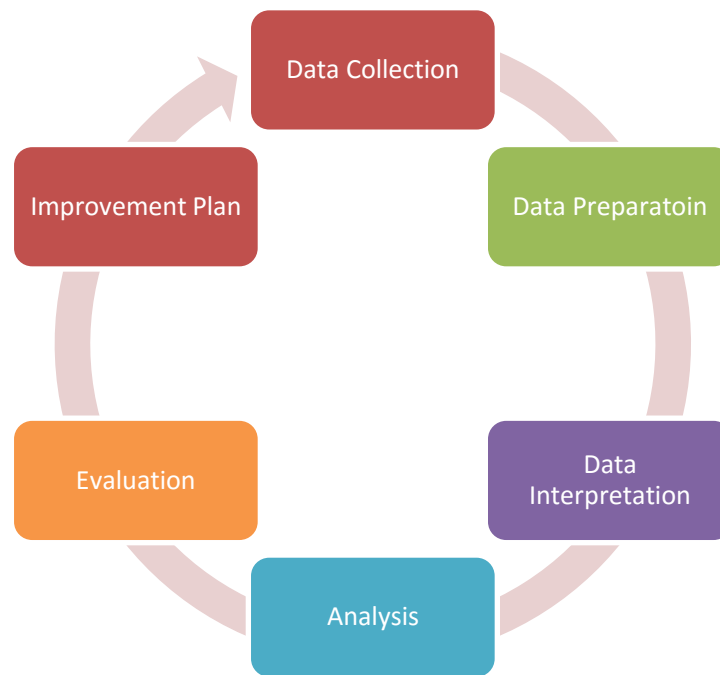
### A. Assessment & Evaluation

**Purpose:**

**Policy:**

**Responsibility:**

**Flow Chart**

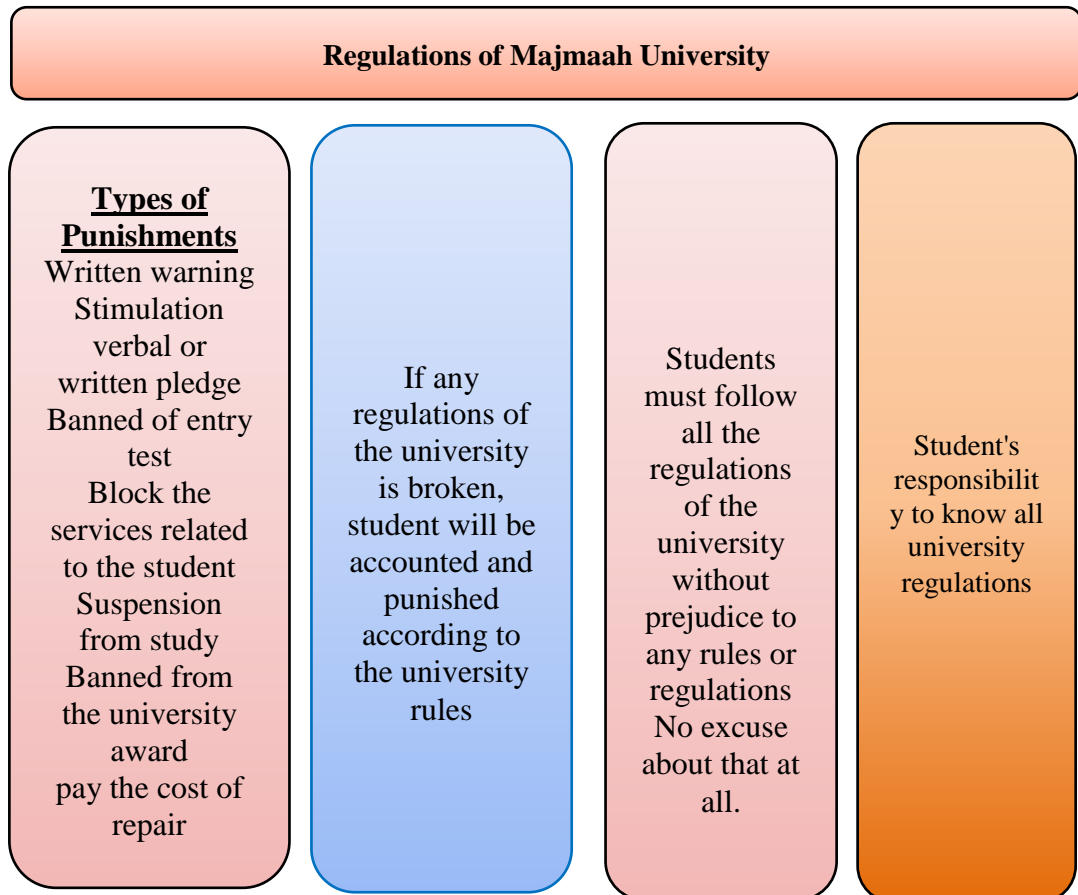


## B. Regulations of Majmaah University

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

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

### Flow Chart



### Forms:

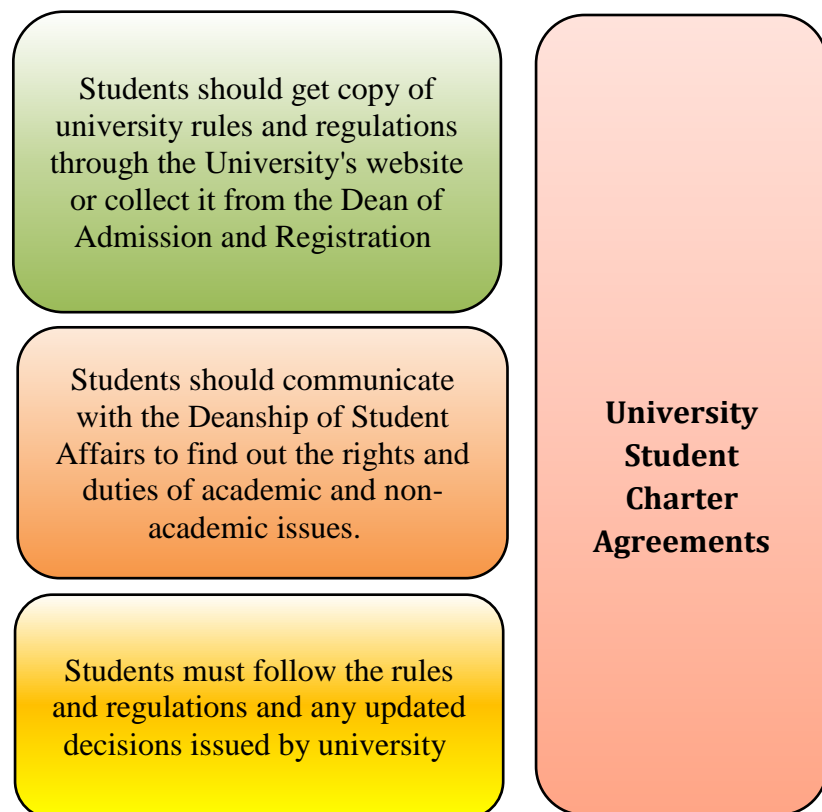
[Regulations of Majmaah University](#)

### C. 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](#)

## D. 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](#)

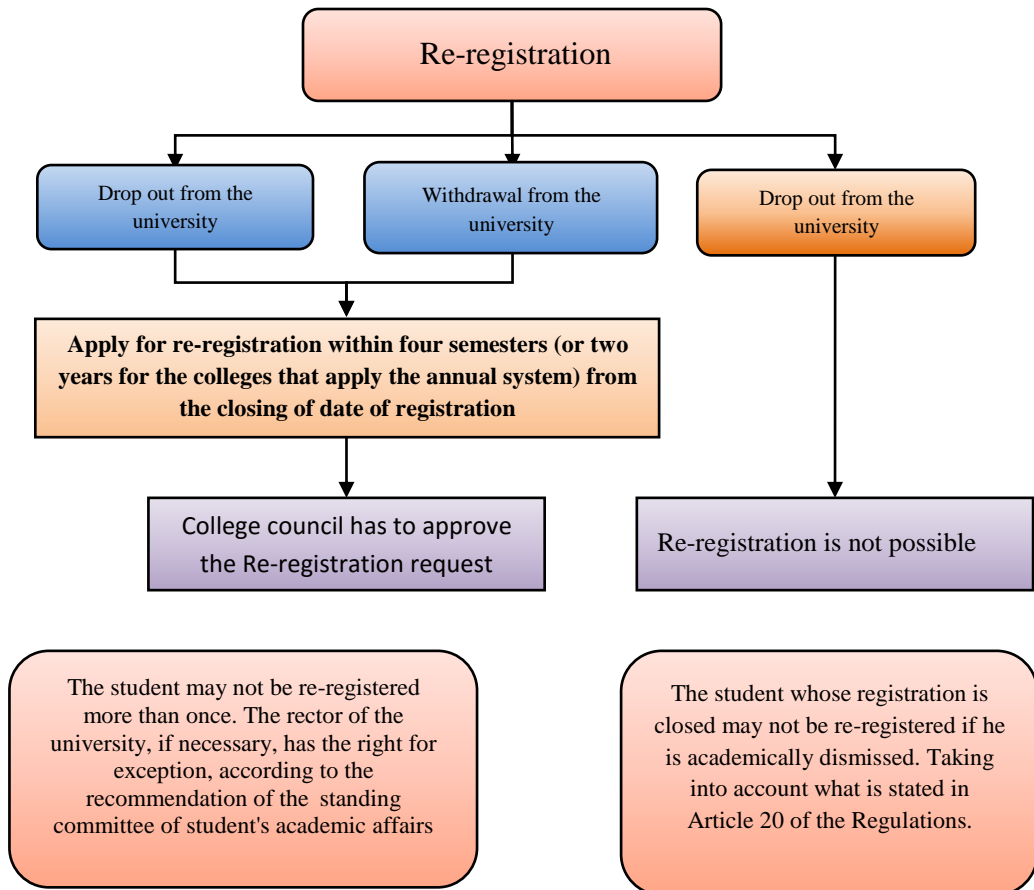
[Final Exam Mark-Objection Form](#)



## E. 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:**

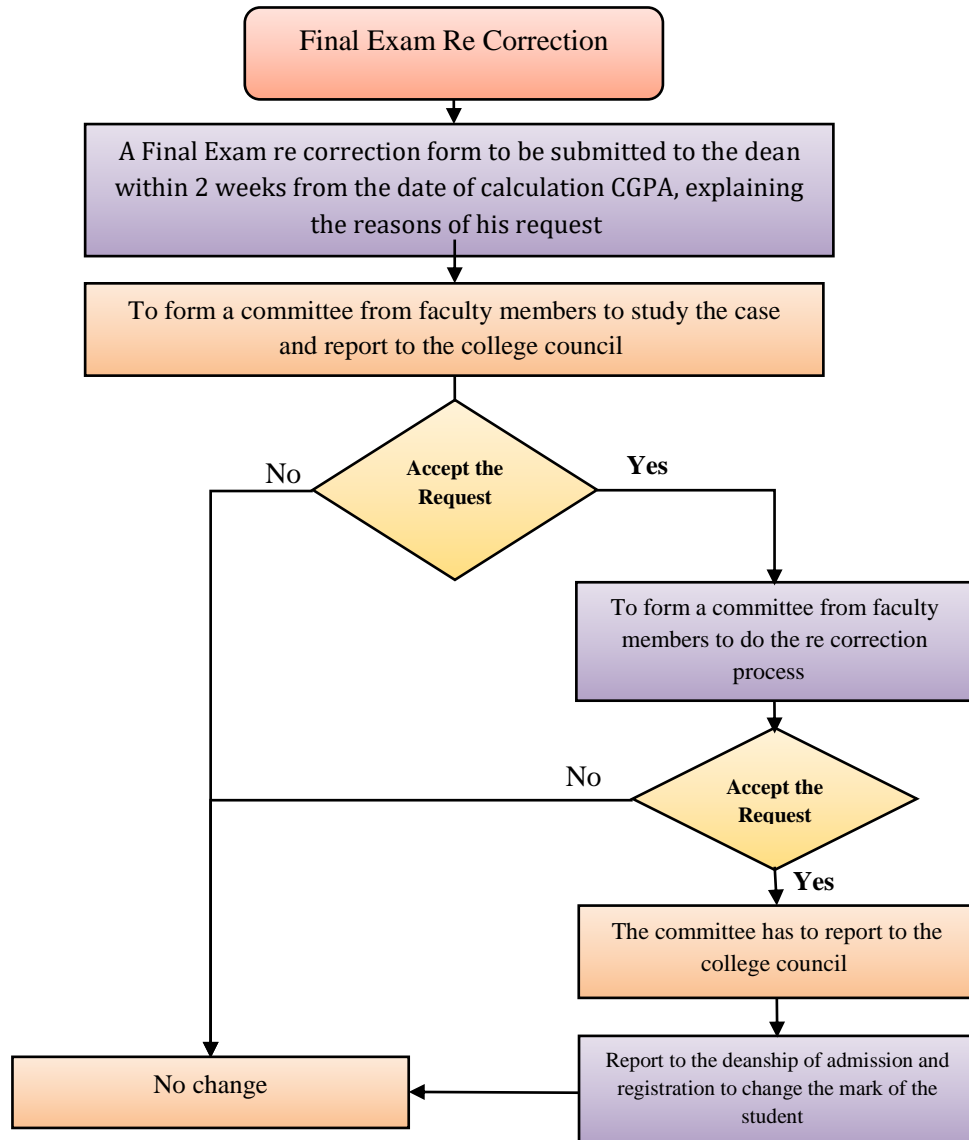
[Undergraduate Study and Examination List](#)

## F. Final Exam Re Correction

**Purpose:** Final Exam Re Correction

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

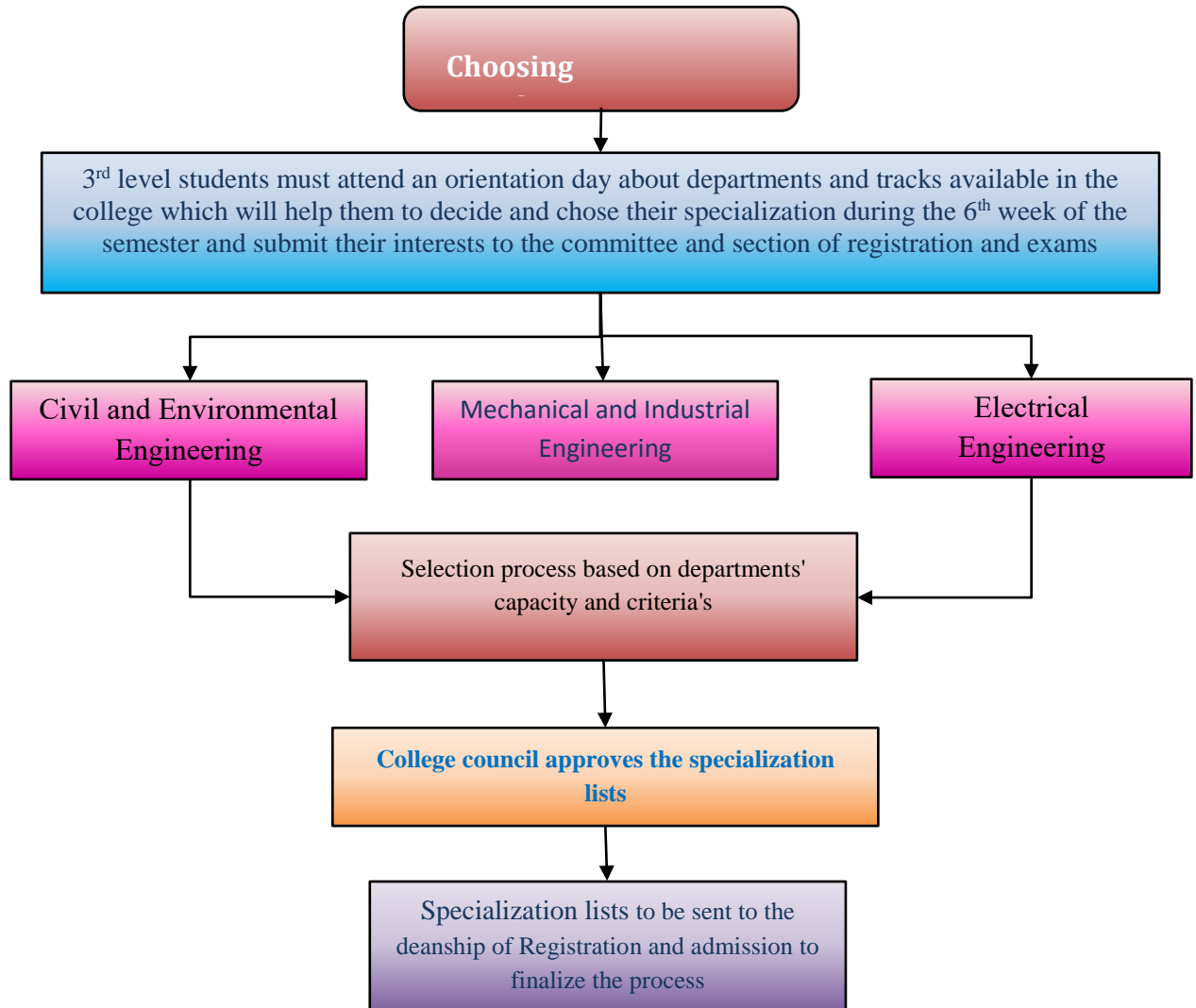
**Flow chart:**



**Forms:**

[Final Exam Re-Correction Form](#)

## G. Choosing Specialization



### Forms:

[Declaration of Major Form](#)

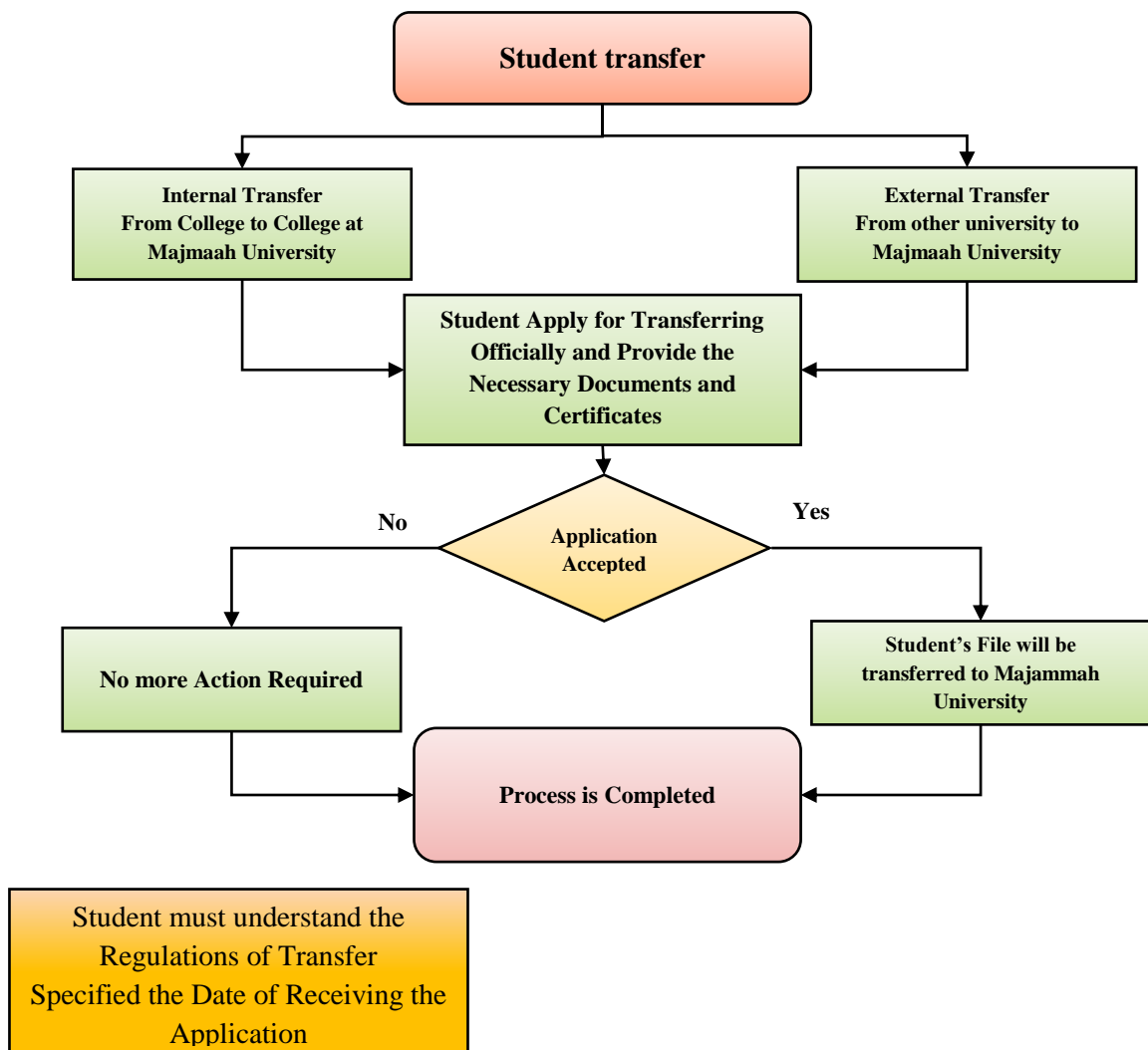
## H. Student Transfer From College to College

**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](#)

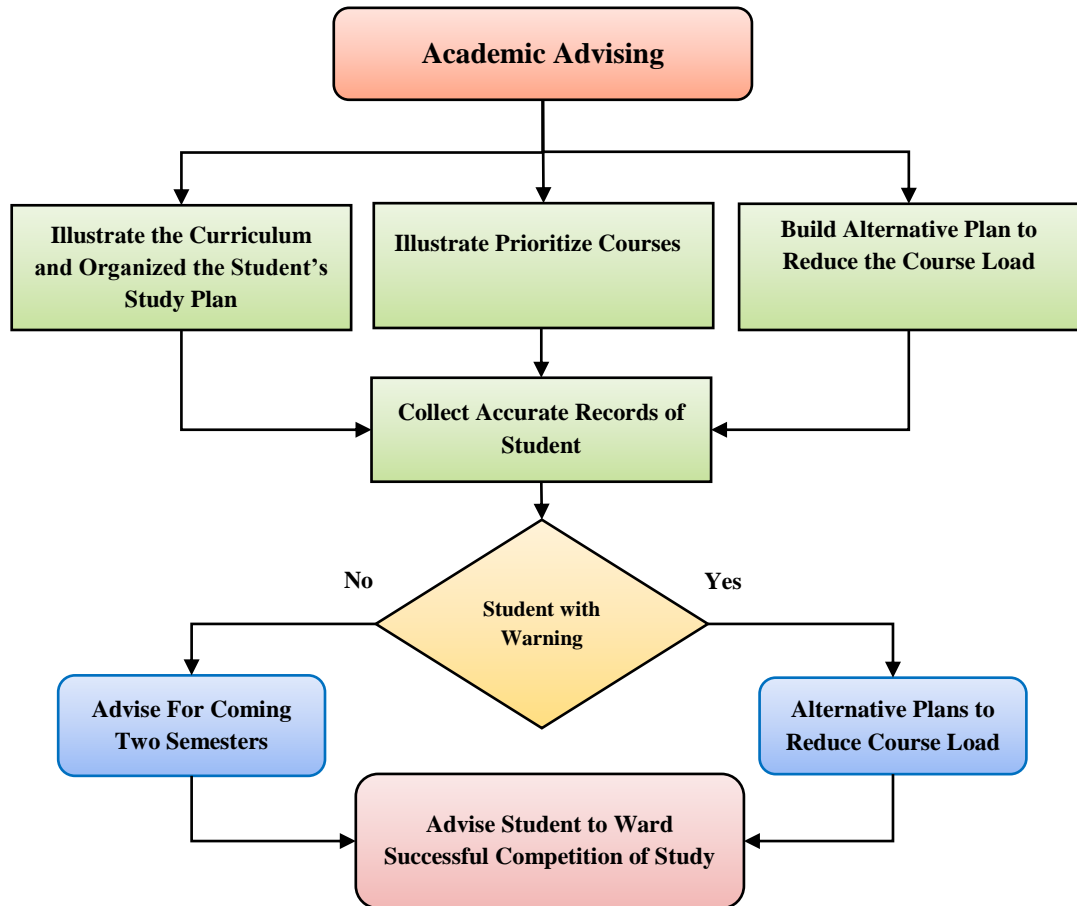
## I. Academic Advising

**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](#)

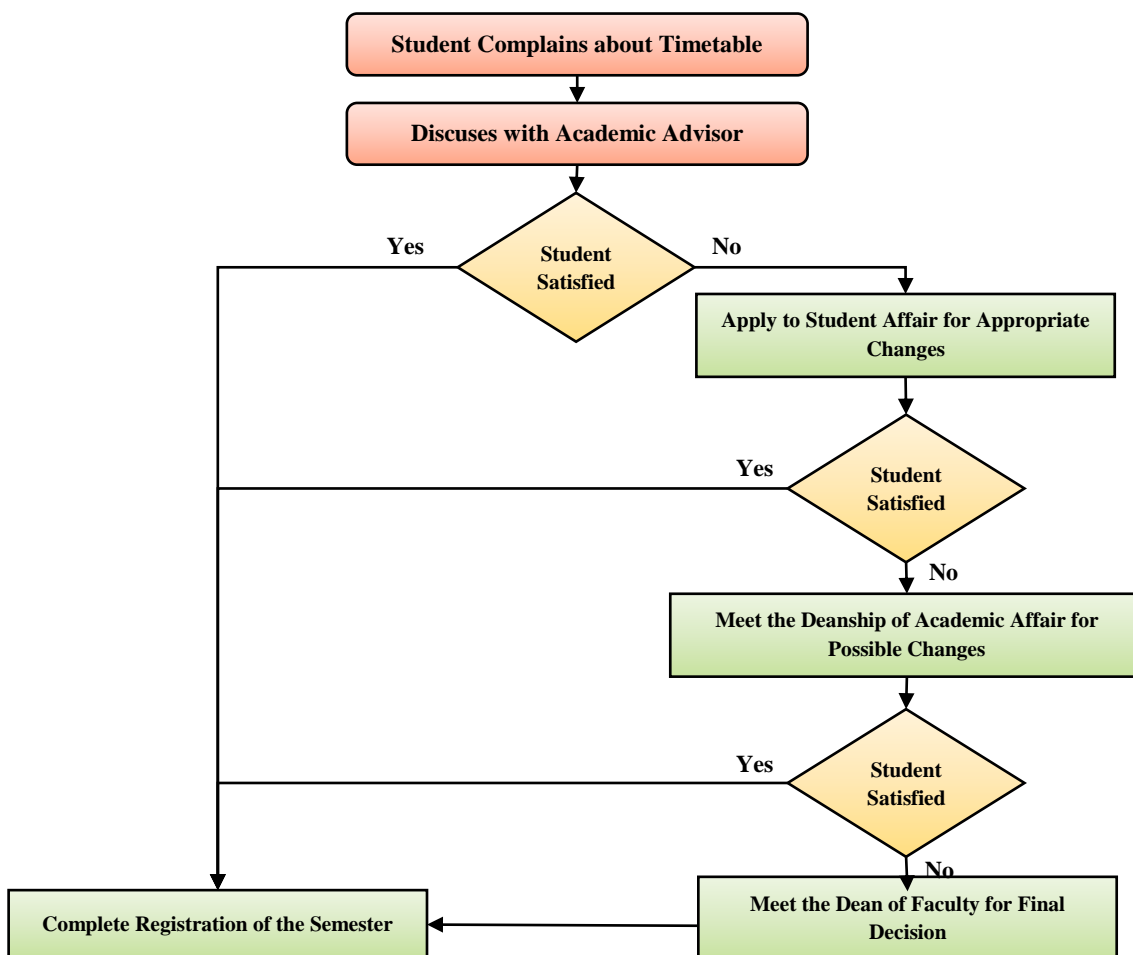
## J. Student Complains about Timetable

**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](#)

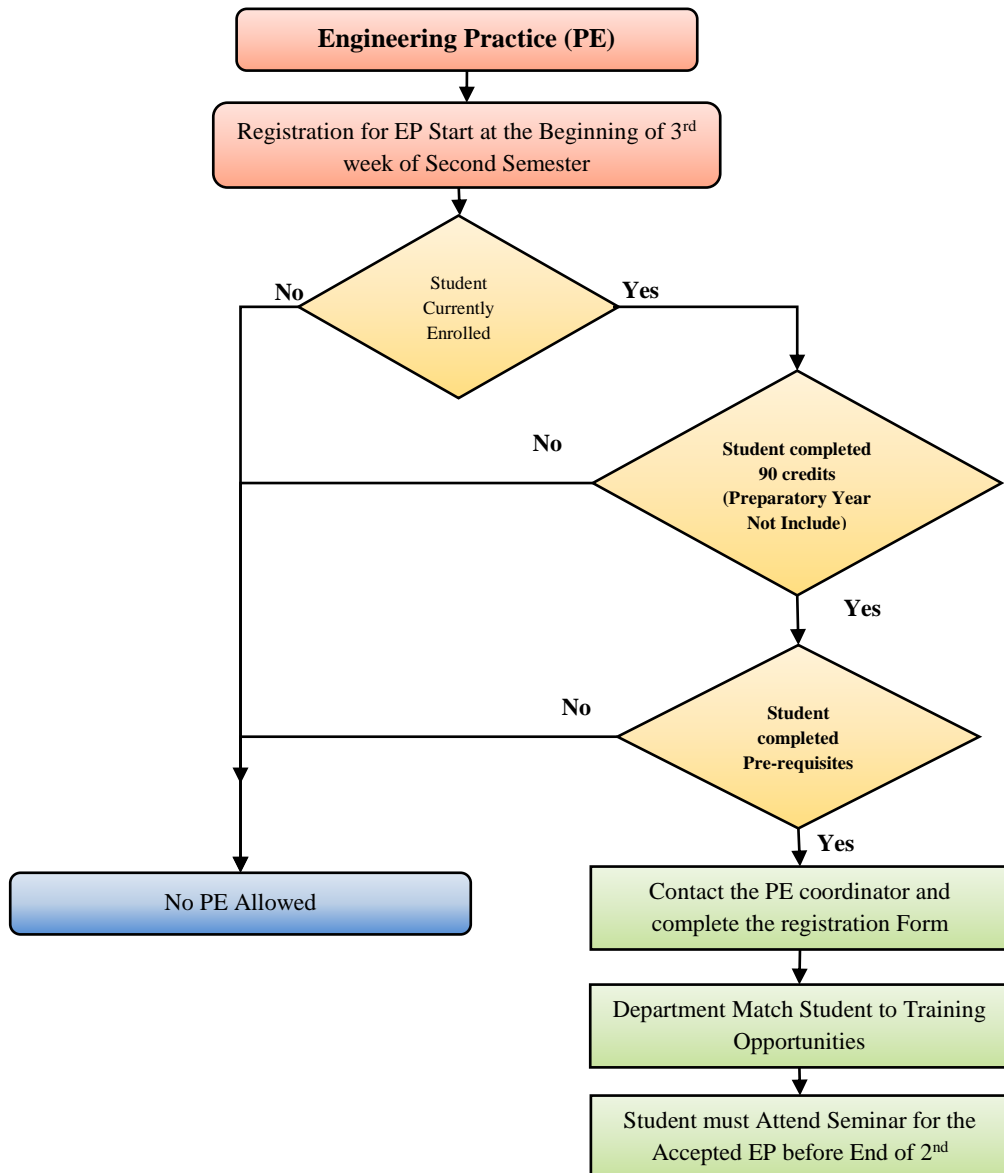
## K. Engineering Practice

**Purpose:** to provide student with practical experience that will close the gap between the theoretical and practical studies.

**Policy:** EP is a requirement of the engineering undergraduate curriculum  
Should not be in the semester before the graduation

**Responsibility:** Department of engineering practice coordinator

### Flow Chart





**Forms:**

**Engineering Practice**

[EP1 Institution Information](#)

[EP2 Engineering Practice Registration](#)

[EP3 Withdrawal from Engineering Practice](#)

[EP4 EP Obligation Agreement](#)

[EP5 Employer Contact Information](#)

[EP6 Progress Report](#)

[EP7 Student Evaluation Form by Employer](#)

[EP8 EPU Evaluation Report](#)

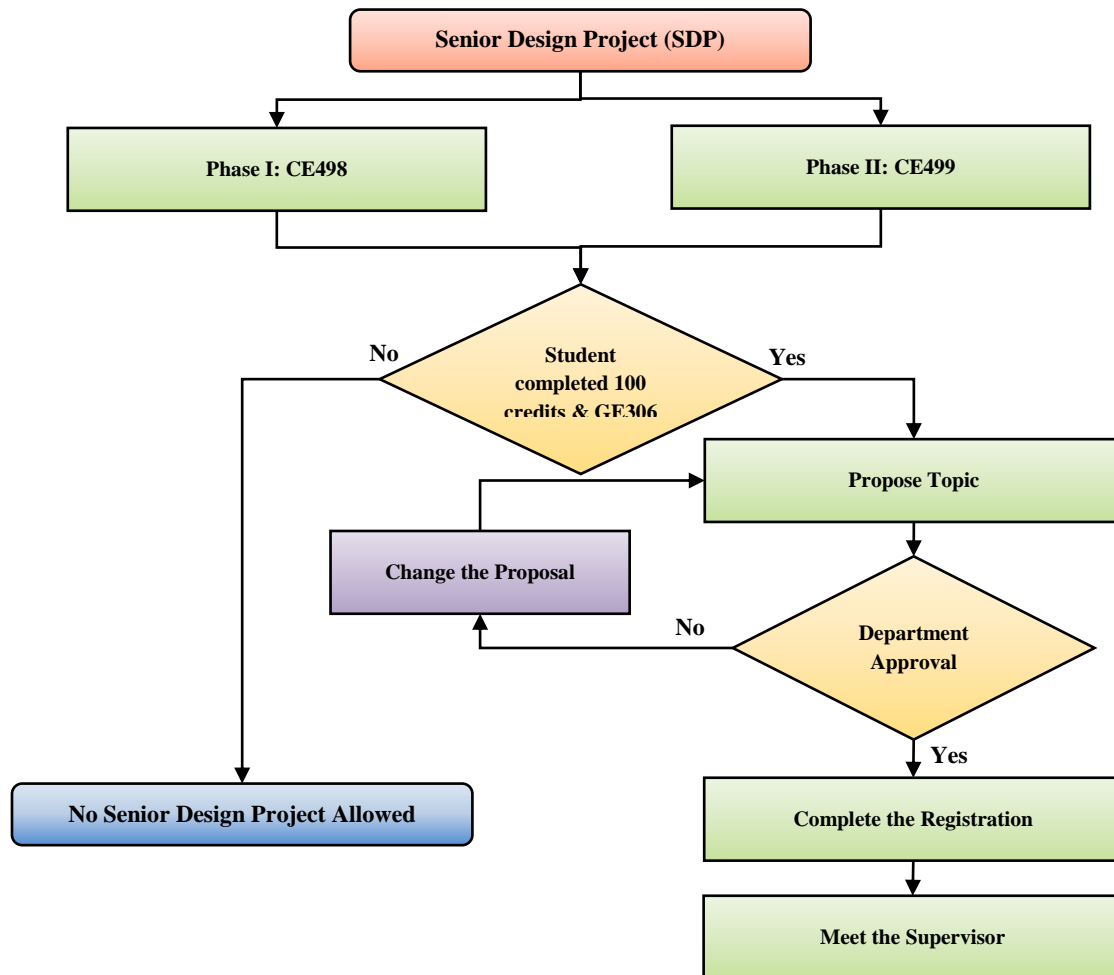
## L. Senior Design Project

**Purpose:** to provide student with appropriate knowledge of advanced technologies and developments in their academic field.

**Policy:** Senior Design Project (SDP) is an implementation of engineering knowledge and skills

**Responsibility:** Department of engineering- senior design coordinator

### Flow Chart



### Forms:

[Senior Design Project Form](#)

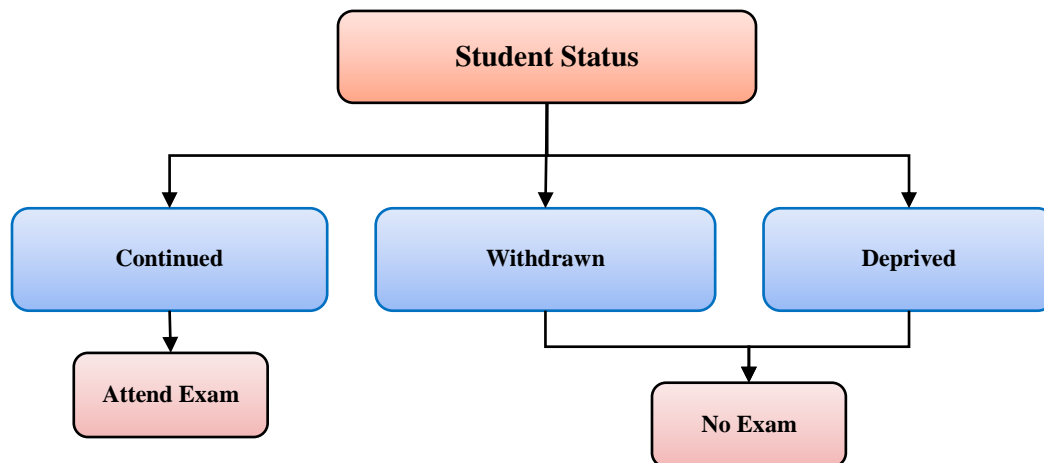
## M. Student Exam

**Purpose:** understanding the university exam regulations

**Policy:** student must follow the exam regulations

**Responsibility:** Examination Committee

### Flow Chart



- ✓ Understand the University Exam Regulations
- ✓ Mobile and Related Materials are Not Allowed
- ✓ Cheating/ Intend of Cheating lead to Punishment

### Forms:

[Exam Regulations](#)

[Final-exam instructions](#)

[Regulations for Cheating Cases](#)

[Disobeying of Exam Regulations Reporting Form](#)

Statistics of Number of Students and Grades

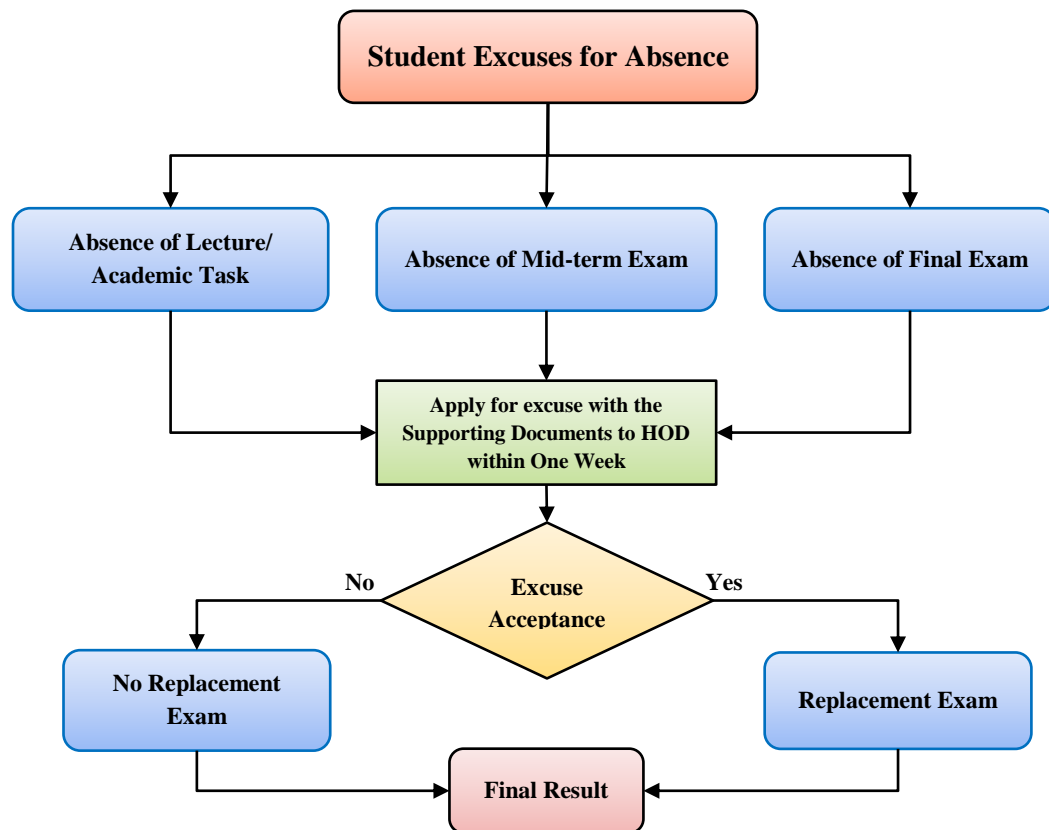
**N. Student Excuses for Absence**

**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 HOD.

**Flow Chart**



**Forms:**

[Absence Excuse Form](#)

[Midterm Exam Absence Excuse Form](#)

[Class Absence Excuse form](#)

[Final Exam Absence Excuse Form](#)

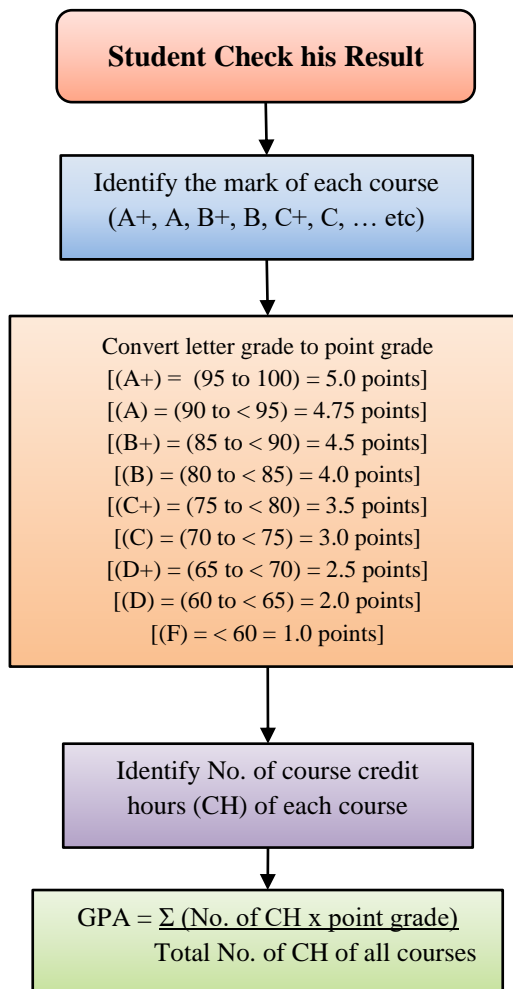
## 0. How to calculate your GPA

**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:**

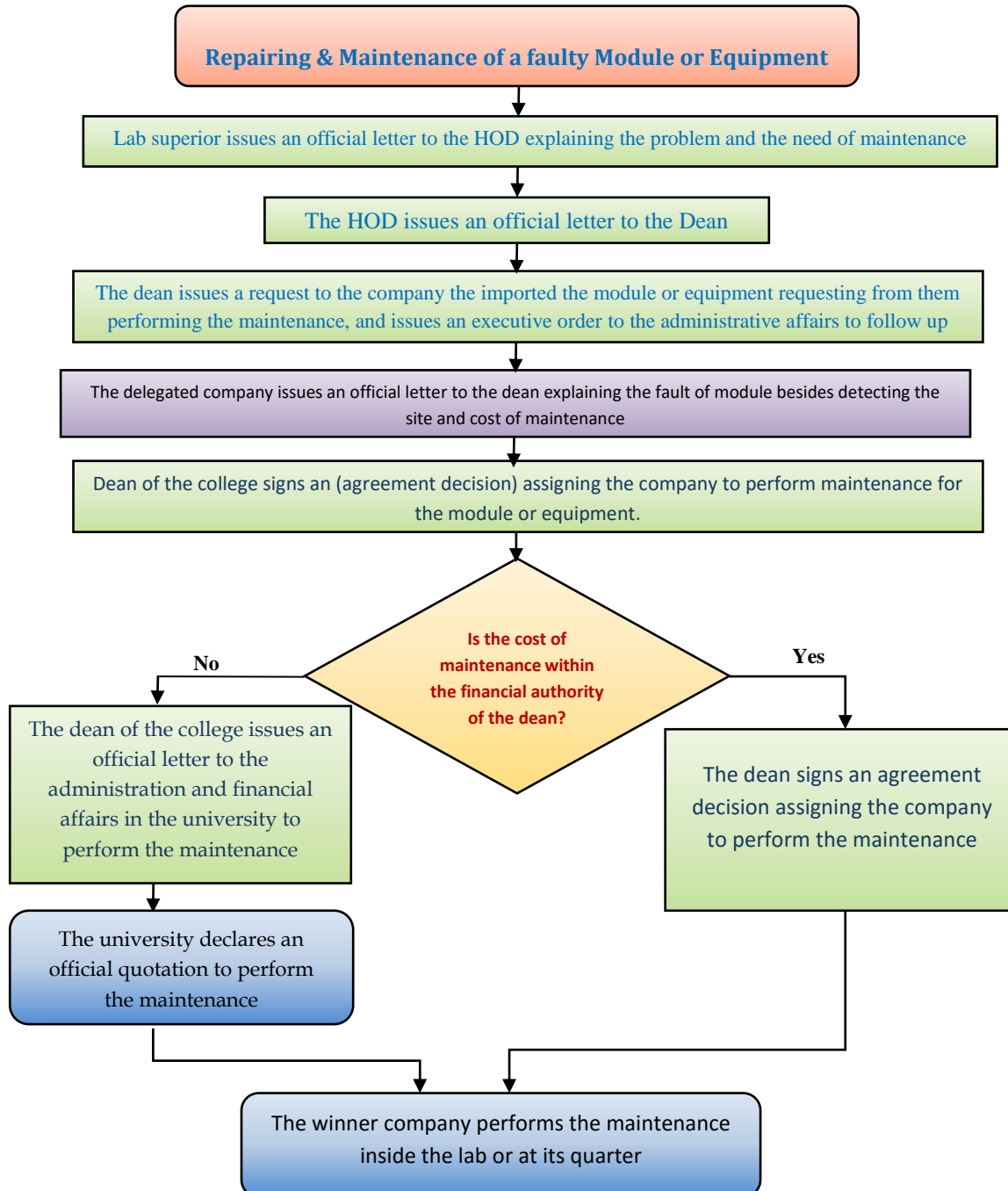
[GPA calculation](#)

## P. Repairing & Maintenance of a Faulty Module or Equipment

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

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

**Flow Chart**



## I. Verification of Standards of Student Achievement

### 1. Students Awareness of Assessment Practice

At the beginning of each semester, the instructors at the electrical engineering 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 (SLOs) associated with each one of them. Table 1 shows an example of CLOs and SLOs association in a course offered in the electrical engineering program. Note that the college of engineering at Majmaah university has adopted the Accreditation Board for Engineering and Technology (ABET) criteria for SLOs shown in*

Table 2.

Table 1 An example of CLOs and SLOs association

N	Course Learning Outcomes	Student Learning Outcomes
	By the end of course, the student will be able to:	
1	Demonstrate the fundamentals of feedback control systems.	a
2	Use models of physical systems in forms suitable for use in the analysis and design of control systems	c,e
3	Solve system equations in state-variable form	a
4	Determine the time and frequency-domain responses of first and second-order systems.	a,e
5	Determine the stability of control system	a,e
6	Apply root-locus technique to analyze and design control systems.	a,e



Table 2 ABET Student Learning Outcomes

Code	Student learning Outcomes
a	An ability to apply knowledge of mathematics, science, and engineering
b	An ability to design and conduct experiments, as well as to analyze and interpret data
c	An ability to design a system, component, or process to meet desired needs within realistic constraints
d	An ability to function on multidisciplinary teams
e	An ability to identify, formulate, and solve engineering problems
f	An understanding of professional and ethical responsibility
g	An ability to communicate effectively
h	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
i	A recognition of the need for, and an ability to engage in life-long learning
j	A knowledge of contemporary issues
k	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

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

Table 3.

Table 3 CLOs Assessment Table

Assessment			
Methods of Assessment	Assessed Course Learning Outcomes	Maximum Score	Week of Assessment
First exam	1,2,3	20	6
Second exam	4,5,6	20	12
Quizzes	1,2,3,4,5,6	10	2-15
Micro Project	1,2,3,4,5,6	10	8-10
Final Exam	1,2,3,4,5,6	40	16-18
<b>Total</b>		<b>100</b>	

## 2. Verifying Standards of Student Achievement

The electrical engineering 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.

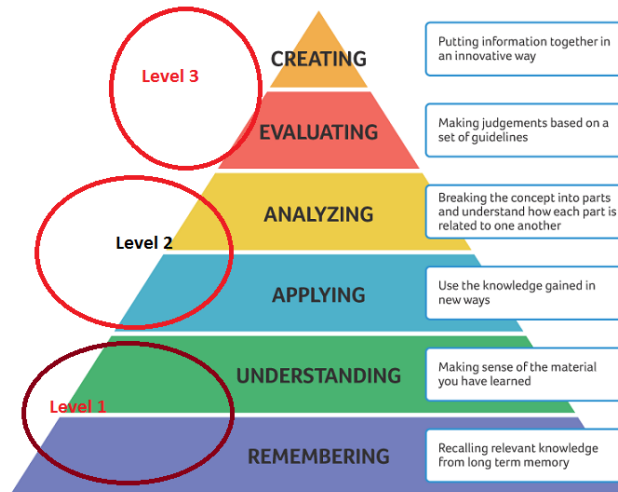
### 2.1. Exam Self-Evaluation

All instructors at the electrical engineering 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 fulfill 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



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 Exam Self-Evaluation

	Q1	Q2	Q3	Q4	Q5
<b>Before the Exam</b>					
CLO # to be assessed.					
Weight of each question.					
Level of the questions per Bloom's taxonomy.					
<b>After the Exam</b>					
Difficulty level.					
Discrimination index					

Table 6 Analysis of Exam Results


 <b>Analysis and Evaluation Committee</b> <b>Majmaah University - Eng. College – EE Dept.</b>												
ANALYSIS OF EXAM RESULTS												
<b>Note:-only the yellow cells might be changed</b>												
	Q1		Q2		Q3		Q4		Q5		Total	%
Max Marks=>>	10	%	5	%	15	%	20	%	10	%	60	
Students	Marks Obtained											
1	6	60.0	4	80.0	12	80.0	18	90.0	7	70.0	47	78.3
2											0	0.0
3											0	0.0

Table 7 Difficulty Level and Discrimination Index

Difficulty Level (P)	0.600	0.800	0.800	0.900	0.700	0.783
Quality of Test	MEDIAN	EASY	EASY	EASY	MEDIAN	EASY
Discrimination Index ULI	0.00	0.00	0.00	0.00	0.00	0.00
Quality of Test	REVISE	REVISE	REVISE	REVISE	REVISE	REVISE

## 2.2. 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 8 Course Statistics

Course Name	Course Code	Number of Students					Result Analysis							
		Registered	Banned	Withdrawn/E	Regular	Attended	Passed		Failed		Average Mark	Maximum Mark	Minimum Mark	
							No	%	No	%				

2- Instructor awareness check list (Internal Review)

3- Instructor (course delivery list: CLO given, syllabus)

## II. References

1. دليل إجراءات العمل بالكليات – جامعة المجمعة
2. دليل جودة البرامج الأكاديمية – عمادة الجودة - جامعة المجمعة
3. Verification of Standards of Student Achievement, Quality Committee -Electrical Engineering Department -College of Engineering Majmaah University

## I. **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:**

## II. Appendix B Coding Methodology

Unit	index
University Council	1
Rector of the university office	2
Vice Rector office	3
Vice Rector for Educational affairs	4
Vice Rector for Graduate Studies and Scientific Research	5
Colleges	6

College Name	index
College of Engineering	6/1

Number	Units ( College of Engineering)	index
1	College Council	6/1/1
2	Dean Office	6/1/2
3	Vice Dean for Quality and Development office	6/1/3
4	Vice Dean for Academic Affairs office	6/1/4
5	Vise Dean for Graduate Studies and Scientific Research	6/1/5
6	Civil and Environmental Engineering Department	6/1/6
7	Electrical Engineering Department	6/1/7
8	Mechanical and Industrial Engineering Department	6/1/8
9	System and Mechatronics Engineering Department	6/1/9
10	Basic Engineering Science Department	6/1/10
11	Registration office	6/1/11
12	Student Affairs office	6/1/12
13	Administrative and Financial Affairs	6/1/13
14	Administrative Communications	6/1/14
15	The Store	6/1/15

**Types of documents:**



- Forms to be coded as X/X/X/FXXX
- Regulations and procedures to be coded as X/X/X/RXXX

**Version number:**

First version is 1 and second to be 2 and so on.

**Finale notes:**

1. **The document number needs to be inserted in the footnote of the approved document.**
2. **The documents is saved as a soft copy with a name of the title of the document and document number.**

Example:

The following form is issued by Vice dean for quality and development office

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