Course Specification of: Advanced Power Electronics

Course Code (PME538)

• General Information About the Course:

13.	**Course Title:**	**Advanced Power Electronics**			
14.	**Course Code and Number:**	**PME538**			
15.	**Credit Hours:**	**Credit Hours**			**Total**
		Lecture	Practical	Seminar/Tutorial	
		3	-	-	*3*
16.	**Study Level and Semester:**	First Semester			
17.	**Pre-requisites (if any):**	-			
18.	**Co-requisites (if any):**	-			
19.	**Program (s) in which the course is offered:**	MSc. in Electrical Power Engineering			
20.	**Language of teaching the course:**	English			
21.	**Study System:**	Courses & Thesis			
22.	**Prepared By:**	Assoc. Prof. Dr. Radwan M. AL Bouthigy			
23.	**Reviewed by:**	Prof. Dr. Eng. Omar H. Al-Sakaf			
24.	**Date of Approval:**				

• Course Description:

With growth and advancements in the field of power electronics, devices around in real-time are able to communicate in a better way than one can imagine. This course provides with students advanced concepts on power electronics design, advanced converters and inverters and capabilities, as well as, dc and ac drives control design. Course covers: un controlled and controlled rectifier, multi pulse converters, isolated and un isolated dc-dc converter, Pulse width – Modulated Inverters, AC Voltage converters and AC/DC drives Throughout the course projects and case studies works, students well develop their skills in power electronics and drives design and implementation.

• Course Intended Learning Outcomes (CILOs):

Upon successful completion of **Advanced Power Electronics Course**, the graduates will be able to:

a1. Demonstrate understanding of the theory and practice of modern power electronics system operation and design.

a2 . Explain in detail the challenges of sustainable design of modern AC / DC drives.

b1. Solve complex power electronic problems by selecting and applying appropriate tools and techniques.

b2. Develop new ideas to improve the scientific literature in the power electronics and drives field.

c1. Apply modern analysis, design and simulation tools of modern power electronics system. **c2 .**Apply other areas of knowledge jointly with other professions to arrive at a solution for complex drives problems. **d1.** Establish leadership, analytical and problem-solving skills appropriate to the power electronics sector with focus on drives improvement. d2. Balance professional and ethical responsibilities including contemporary issues and environmental awareness in the field of power electronics systems design and integration.

• Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs)

CILOs		PILOs
e. Knowledge and Understanding: Upon successful completion of **the Advanced Power Electronics and Drive Course**, the graduates will be able to:		**E. Knowledge and Understanding:** Upon successful completion of the **MSc. In Electrical power Engineering Program**, the graduates will be able to:
a1.	Demonstrate understanding of the theory and practice of modern power electronics system operation and design.	A1. Demonstrate in-depth understanding of the theory and practice of modern electrical power systems design and operation and system identification.
a2.	Explain in detail the challenges of sustainable design of modern AC / DC drives.	A3. Explain in detail the key considerations and challenges of sustainable design and development of modern electrical power system components.
f. Cognitive/ Intellectual Skills: Upon successful completion of the **Advanced Power Electronics and Drive Course,** the graduates will be able to:		**F. Cognitive/ Intellectual Skills:** Upon successful completion of the **MSc. In Electrical power Engineering Program,** the graduates will be able to:
b1.	Solve complex power electronic problems by selecting and applying appropriate tools and techniques.	B1. Identify, formulate, and solve complex power engineering problems by selecting and applying appropriate tools and techniques.
b2.	Develop new ideas to improve the scientific literature in the power electronics and drives field.	B2. Critically review the scientific literature for effective justification and support of results and decisions.
g. Professional and Practical Skills: Upon successful completion of the **Advanced Power Electronics and Drive Course,** the graduates will be able to:		**G. Professional and Practical Skills:** Upon successful completion of the **MSc. In Electrical power Engineering Program,** the graduates will be able to:
c1.	Apply modern analysis, design and simulation tools of modern power	C1. Apply modern tools for research, computation, simulation, analysis, and

	electronics system.	design of modern power systems.
c2.	Apply other areas of knowledge jointly with other professions to arrive at a solution for complex drives problems.	C2. Recognize the interdisciplinary nature of technical problems and apply other areas of knowledge to the solution, and work with other professions to arrive at a solution for complex engineering problems.
h. Transferable Skills: Upon successful completion of the **Advanced Power Electronics and Drive Course,** the graduates will be able to:		**H. Transferable Skills:** Upon successful completion of the **MSc. In Electrical power Engineering Program,** the graduates will be able to:
d1.	Establish leadership, analytical and problem-solving skills appropriate to the power electronics sector with focus on drives improvement.	D1. Demonstrate leadership skills in the workplace, to function professionally in a globally competitive world, and to communicate engineering results effectively.
d2.	Balance professional and ethical responsibilities including contemporary issues and environmental awareness in the field of power electronics systems design and integration.	D2. Realize the relevance of economics, ethics and teamwork to the profession.

• Alignment of CILOs to Teaching and Assessment Strategies

e. Alignment of Knowledge and Understanding CILOs:

Knowledge and Understanding CILOs		Teaching Strategies	Assessment Strategies
a1.	Demonstrate understanding of the theory and practice of modern power electronics system operation and design.	▪ Lectures, ▪ Self-Learning Problems/Studies,	▪ Written Exam, ▪ Assignments.
a2.	Explain in detail the challenges of sustainable design of modern AC / DC drives.	▪ Lectures, ▪ Active learning.	▪ Written Exam, ▪ Assignments

f. Alignment of Intellectual Skills CILOs:

Intellectual Skills CILOs		Teaching Strategies	Assessment Strategies
b1.	Solve complex power electronic problems by selecting and applying appropriate tools and techniques.	▪ Lectures, ▪ Independent Study, ▪ Brainstorming.	▪ Survey, ▪ Written Exam, ▪ Assignments
b2.	Develop new ideas to improve the scientific literature in the power electronics and drives field.	▪ Lectures, ▪ Project Supervision, ▪ Self-Learning, ▪ Brainstorming,	▪ Written Exam, ▪ Assignments.

g. Alignment of Professional and Practical Skills CILOs:

Professional and Practical Skills CILOs		Teaching Strategies	Assessment Strategies
c1.	Apply modern analysis, design and simulation tools of modern power	▪ Case Study, ▪ Simulation Exercises,	▪ Written Research

	electronics system.	▪ Brainstorming, ▪ Presentations,	Proposal, ▪ Thesis and Publication.
c2.	Apply other areas of knowledge jointly with other professions to arrive at a solution for complex drives problems.	▪ Self-Learning, ▪ Case Study, ▪ Simulation Exercises, ▪ Brainstorming, ▪ Presentations,	▪ Written Research Proposal, ▪ Thesis and Publication.

h. Alignment of Transferable (General) Skills CILOs:

Transferable (General) Skills CILOs		Teaching Strategies	Assessment Strategies
d1.	Establish leadership, analytical and problem-solving skills appropriate to the power electronics sector with focus on drives improvement.	▪ Independent Study, ▪ Presentation, ▪ Publish Research Papers.	▪ Written Exam, ▪ Written Report.
d2.	Balance professional and ethical responsibilities including contemporary issues and environmental awareness in the field of power electronics systems design and integration.	▪ Dissertation Defenses and Presentation, ▪ Independent Study, ▪ Presentation, ▪ Brainstorming, ▪ Publish Research Papers.	▪ Written Exam, ▪ Assignments, ▪ Written Report.

• Course Content

4. Theoretical Aspect

Order	Topic List / Units	Sub -Topics List	Number of Weeks	Contact Hours	Course ILOs
1	Semiconductor switching devices used in power electronics	▪ Power Electronics Concepts ▪ Electronics Switches ▪ Switch selection ▪ Classification of switches ▪ Generic switching Converter	1	3	a1,a2
2	Uncontrolled Rectifiers Uncontrolled Rectifiers	▪ Single phase uncontrolled rectifiers ▪ Three phase uncontrolled rectifiers ▪ Harmonic analysis ▪ Output voltage with LC filter ▪ Simulating uncontrolled rectifiers by using MATLAB	1	3	b1,b2
3	Controlled Rectifiers	▪ Single phase controlled rectifiers ▪ Three phase controlled rectifiers ▪ Harmonic analysis ▪ Power factor improvement ▪ Simulating uncontrolled rectifiers by using MATLAB	2	6	a1,b1,b2
4	Multi pulse Converter	▪ 18 -pulse series type diode rectifier ▪ 24 -pulse series type diode rectifier ▪ 12pulse separate type diode rectifier ▪ 18 -pulse separate type diode rectifier ▪ 12SCR rectifiers with inductive load ▪ 18SCR rectifiers with inductive load ▪ 24 SCR rectifiers with inductive load	1	3	a2,b1,b2

5	**UN isolated DC –DC Chopper Converters**	▪ **Step down chopper converter** ▪ **Step up chopper converter** ▪ **Classifications of chopper converter** ▪ **Simulating DC – DC chopper by using MATLAB**	**1**	**3**	**a2,b2,c1,c2,d1**
6	**Isolated DC DC Chopper converter**	▪ **Fly back converter**	**1**	**3**	**a1,b1,d1**
7	Pulse width – Modulated Inverters	▪ **Single-Phase Voltage Source Inverters** ▪ **Three-Phase Voltage Source Inverters** ▪ **Current Source Inverters** ▪ **Pulse width modulation technique** ▪ **Harmonic analysis** ▪ **Closed-Loop Operation of Inverters** ▪ **Simulating DC – AC inverter by using MATLAB**	**1**	**3**	**c1,c2,d1,d2**
8	Mid Term Exam	▪ **All Topics**	**1**	**3**	**a1,a2,b1,b2**
9	**AC Voltage converter**	▪ **Single Phase AC Controllers.** ▪ **Three Phase AC Controllers.** ▪ **Harmonic analysis** ▪ **Cycloconverters** ▪ **Simulating AC voltage converter by using MATLAB**	**2**	**6**	**b1,b2,c1,c2**
10	**DC Drives**	▪ **Single phase drives** ▪ **Three phase drive** ▪ **Chopper drives** ▪ **Closed loop control of DC motors** ▪ **Simulating DC drives by using MATLAB**	**2**	**6**	**a1,a2,b1,c1,d2**
11	**AC Drives**	▪ **Stator voltage control** ▪ **Rotor voltage control** ▪ **Frequency control** ▪ **Voltage frequency control** ▪ **Current control** ▪ **Voltage, current and frequency control**	**1**	**3**	**a2,b2,c1,c2,d1,d2**

		▪ Closed loop control of induction motor ▪ Synchronous motor control ▪ Simulating DC drives by using MATLAB			
12	Case Studies	▪ Power converters for specific applications such as utility, domestic appliance, electric vehicle and industrial applications	1	3	a1,a2,b1,b2,c1,c2,d1,d2
13	Final Exam	▪ All Topics	1	3	a1,a2,b1,b2
Number of Weeks /and Contact Hours Per Semester			16	48	

5. Practical Aspect NA

Order	Practical / Tutorials topics	Number of Weeks	Contact Hours	Course ILOs
1	▪ None			
Number of Weeks /and Contact Hours Per Semester				

6. Tutorial Aspect:

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	None			
Number of Weeks /and Units Per Semester		15	30	

• Teaching Strategies:

- Lectures,
- Self-Learning,
- Case Study,
- Simulation Exercises,
- Brainstorming,
- Presentations,
- Group/Individual Projects and Studies,

• Assessment Methods of the Course:

- Written Exam,
- Assignments, including reports and presentations
- Written Research Proposal.

• Tasks and Assignments:

No	Assignments/ Tasks	Individual/ Group	Mark	Week Due	CILOs (symbols)
1	**Assignments:** **Assignment 1: Design and implementation of controlled rectifier circuits using MATLAB tools** **Assignment 2: Design and implementation of DC- AC rectifier circuits using MATLAB tools** **Assignment 3: Individual search assignments with following presentations**	Individual	14	5th, 10th, & 12th	a1, a2, b1, b2, c1, c2, d1, d2
2	**Mini/Major Project:** **Students works and submit their individual & group Projects using Web searching, High-Level Programming and simulation to design and implement power electronics applications.**	Individual/ Group	16	From the 4th to 14th	a1, a2, b1, b2, c1, c2, d1, d2
3	**Project presentation & Case studies**	Individual/ Group	10	Work from the 4th to 14th weeks	a2, b1, b2, c1, c2, d1, d2
	Total Score		40	==	===

• Learning Assessment:

No.	Assessment Tasks	Week due	Mark	Proportion of Final Assessment	CILOs
1	Assignments	4th to 14th	40	40%	a1, a2, b1, b2, c1, c2, d1, d2
3	Midterm Exam	8th	20	20%	a1, a2, b1, b2
4	Final Exam (Theoretical)	16th	40	40%	a1, a2, b1, b2
Total				100%	===

• Learning Resources :

4. Required Textbook(s) :

1. M. H. Rashid, 2014, “Power electronics: circuits, devices, and applications,” 4rd edition, Prentice Hall
2. Austin Hughes,(2006) Electric Motors and Drives Fundamentals, Types and Applications, 3rd Edition, Elsevier Ltd.

5. Essential References:

1. Cyril W. Lander, 1993, “Power electronics”, 3rd edition, McGraw-Hill.
2. B. W. Williams, 1992, Power Electronics, Devices, Drivers, Application and Passive components
3. Fang Lin Luo, Hong Ye, Muhammad Rashid, "Digital Power Electronics and Applications", 2005, Elsev USA
4. E. Acha, Power Electronics control in Electrical system, 1st , 2002, Newnes

6. Electronic Materials and Web Sites *etc.*

1. www.goelectricdrive.com/
2. www.electricmachinery.com/
3. www.goelectricdrive.com/
4. http://www.ece.tamu.edu/~empelab/

Journal :

IEEE Publisher

https://www.ieee.org

Elsevier Publisher

https://www.elsevier.org

Science Direct Publisher

https://www.Sciencedirect.com

i. الضوابط والسياسات المتبعة في المقرر Course Policies	
بعد الرجوع للوائح الجامعة يتم كتابة السياسة العامة للمقرر فيما يتعلق بالآتي:	
1	**سياسة حضور الفعاليات التعليمية Class Attendance:** - يلتزم الطالب بحضور 75% من المحاضرات ويحرم في حال عدم الوفاء بذلك. - يقدم أستاذ المقرر تقريرا بحضور وغياب الطلاب للقسم ويحرم الطالب من دخول الامتحان في حال تجاوز الغياب 25% ويتم اقرار الحرمان من مجلس القسم.
2	**الحضور المتأخر Tardy:** - يسمح للطالب حضور المحاضرة إذا تأخر لمدة ربع ساعة لثلاث مرات في الفصل الدراسي، وإذا تأخر زيادة عن ثلاث مرات يحذر شفويا من أستاذ المقرر، وعند عدم الالتزام يمنع من دخول المحاضرة.
3	**ضوابط الامتحان Exam Attendance/Punctuality:** - لا يسمح للطالب دخول الامتحان النهائي إذا تأخر مقدار (20) دقيقة من بدء الامتحان - إذا تغيب الطالب عن الامتحان النهائي تطبق اللوائح الخاصة بنظام الامتحان في الكلية.
4	**التعيينات والمشاريع Assignments & Projects:** - يحدد أستاذ المقرر نوع التعيينات في بداية الفصل ويحدد مواعيد تسليمها وضوابط تنفيذ التكليفات وتسليمها. - إذا تأخر الطالب في تسليم التكليفات عن الموعد المحدد يحرم من درجة التكليف الذي تأخر في تسليمه.
5	**الغش Cheating:** - في حال ثبوت قيام الطالب بالغش في الامتحان النصفي أو النهائي تطبق عليه لائحة شؤون الطلاب. - في حال ثبوت قيام الطالب بالغش او النقل في التكليفات والمشاريع يحرم من الدرجة المخصصة للتكليف.
6	**الانتحال Plagiarism:** – في حالة وجود شخص ينتحل شخصية طالب لأداء الامتحان نيابة عنه تطبق اللائحة الخاصة بذلك
7	**سياسات أخرى Other policies:** - أي سياسات أخرى مثل استخدام الموبايل أو مواعيد تسليم التكليفات ..... الخ

Academic Year: ……....

Course Plan (Syllabus): Advanced Power Electronics

• Information about Faculty Member Responsible for the Course:

Name	Assoc. Prof. Dr. Radwan M. AL Bouthigy	Office Hours					
Location &Telephone No.	775284933	SAT	SUN	MON	TUE	WED	THU
E-mail	radwan006@yahoo.com						

• General information about the course:

10	Course Title	Advanced Power Electronics			
11	Course Code and Number	PME538			
12	Credit Hours	Credit Hours			Total
		Lecture	Practical	Seminar/Tutorial	
		3	-	-	3
13	Study Level and Semester	First Semester			
14	Pre-requisites	-			
15	Co –requisite	-			
16	Program (s) in which the course is offered	MSc. in Electrical Power Engineering			
17	Language of teaching the course	English			
18	Location of teaching the course	Faculty of Engineering			

• Course Description:

With growth and advancements in the field of power electronics, devices around in real-time are able to communicate in a better way than one can imagine. This course provides with students advanced concepts on power electronics design, advanced converters and inverters and capabilities, as well as, dc and ac drives control design. Course covers: un controlled and controlled rectifier, multi pulse converters, isolated and un isolated dc-dc converter, Pulse width – Modulated Inverters, AC Voltage converters and AC/DC drives Throughout the course projects and case studies works, students well develop their skills in power electronics and drives design and implementation.

• Course Intended Learning Outcomes (CILOs):

Upon successful completion of the **Advanced power electronics and drives** course, graduate

students will be able to:

a1. Demonstrate of the theory and practice of modern power electronics system operation and design. **-**

a2. Explain in detail the challenges of sustainable design of modern AC / DC drives.

b1. Solve complex power electronic problems by selecting and applying appropriate tools and techniques.

b2. Develop new ideas to improve the scientific literature in the power electronics and drives field.

c1. Apply modern tools simulation, analysis and design of modern power electronics system.

c2 . Apply other areas of knowledge to the solution, and work with other professions to arrive at a solution for complex drives problems.

d1. Establish leadership, analytical and problem-solving skills appropriate to the power electronics sector with focus on drives improvement.

d2. Balance professional and ethical responsibilities including contemporary issues and environmental awareness in the field of power electronics systems design and integration.

• Course Content:

1. Theoretical Aspect:

Order	Units	Sub Topics	Week Due	Contact Hours
1	**Semiconductor switching devices used in power electronics**	▪ **Power Electronics Concepts** ▪ **Electronics Switches** ▪ **Switch selection** ▪ **Classification of switches** ▪ **Generic switching Converter**	**1**	**3**
2	**Uncontrolled Rectifiers Uncontrolled Rectifiers**	▪ **Single phase uncontrolled rectifiers** ▪ **Three phase uncontrolled rectifiers** ▪ **Harmonic analysis** ▪ **Output voltage with LC filter** ▪ **Simulating uncontrolled rectifiers by using MATLAB**	**1**	**3**
3	**Controlled Rectifiers**	▪ **Single phase controlled rectifiers** ▪ **Three phase controlled rectifiers** ▪ **Harmonic analysis** ▪ **Power factor improvement** ▪ **Simulating uncontrolled rectifiers by using MATLAB**	2	**6**
4	**Multi pulse Converter**	▪ **18 -pulse series type diode rectifier** ▪ **24 -pulse series type diode rectifier** ▪ **12pulse separate type diode rectifier** ▪ **18 -pulse separate type diode rectifier** ▪ **12SCR rectifiers with inductive load**	1	**3**

		▪ 18SCR rectifiers with inductive load ▪ 24 SCR rectifiers with inductive load		
5	**UN isolated DC –DC Chopper Converters**	▪ Step down chopper converter ▪ Step up chopper converter ▪ Classifications of chopper converter ▪ Simulating DC – DC chopper by using MATLAB	1	3
6	**Isolated DC DC Chopper converter**	▪ Fly back converter	1	3
7	Pulse width – Modulated Inverters	▪ Single-Phase Voltage Source Inverters ▪ Three-Phase Voltage Source Inverters ▪ Current Source Inverters ▪ Pulse width modulation technique ▪ Harmonic analysis ▪ Closed-Loop Operation of Inverters ▪ Simulating DC – AC inverter by using MATLAB	1	3
8	Mid Term Exam	▪ All Topics	1	3
9	**AC Voltage converter**	▪ Single Phase AC Controllers. ▪ Three Phase AC Controllers. ▪ Harmonic analysis ▪ Cycloconverters ▪ Simulating AC voltage converter by using MATLAB	1	3
10	**DC Drives**	▪ Single phase drives ▪ Three phase drive ▪ Chopper drives ▪ Closed loop control of DC motors ▪ Simulating DC drives by using MATLAB	2	6
11	**AC Drives**	▪ Stator voltage control ▪ Rotor voltage control ▪ Frequency control ▪ Voltage frequency control ▪ Current control ▪ Voltage, current and frequency control ▪ Closed loop control of induction motor ▪ Synchronous motor control ▪ Simulating DC drives by using MATLAB	2	6
12	**Case Studies**	▪ Power converters for specific applications such as utility, domestic appliance, electric vehicle and industrial applications	1	3
13	Final Exam	▪ All Topics	1	3
Number of Weeks /and Contact Hours Per Semester			**16**	**48**

2. Practical Aspect

Order	Practical / Tutorials topics	Number of Weeks	Contact Hours	Course ILOs
1	▪ None			
Number of Weeks /and Contact Hours Per Semester				

3. Training/ Tutorials/ Exercises Aspects:

Order	Tutorials/ Exercises	Week Due	Contact Hours
1	▪ None		
Number of Weeks /and Contact Hours Per Semester			

• Teaching Strategies:

- Lectures,
- Self-Learning,
- Case Study,
- Simulation Exercises,
- Brainstorming,
- Presentations,
- Group/Individual Projects and Studies,

• Assessment Methods of the Course:

- Written Exam,
- Assignments, including reports and presentations
- Written Research Proposal.

• Tasks and Assignments:

No	Assignments	Individual /Groups	Mark	Week Due
1	**Assignments:** **Assignment 1: Design and implementation of controlled rectifier circuits using MATLAB tools**	Individual	14	5th, 10th, & 12th

	Assignment 2: Design and implementation of DC- AC rectifier circuits using MATLAB tools **Assignment 3: Individual search assignments with following presentations**			
2	**Mini/Major Project:** **Graduates works and submit their individual & group Projects using Web searching, High-Level Programming and simulation to design and implement power electronics applications.**	**Individual/ Group**	**16**	**From the 4th to 14th**
3	**Project presentation & Case studies**	**Individual/ Group**	**10**	**Work from the 4th to 14th weeks**
	Total Score		**40**	

• Learning Assessment:

No	Assessment Method	Week Due	Mark	Proportion of Final Assessment %
1	**Assignments**	**4th to 14th**	**40**	**40%**
3	**Midterm Exam**	**8th**	**20**	**20%**
4	**Final Exam (Theoretical)**	**16th**	**40**	**40%**
	المجموعTotal		**100**	**100 %**

• Learning Resources:

1. Required Textbook(s) :

1. **M. H. Rashid, 2014, "Power electronics: circuits, devices, and applications," 4rd edition, Prentice Hall**
2. **Austin Hughes,(2006) Electric Motors and Drives Fundamentals, Types and Applications, 3rd Edition, Elsevier Ltd.**

2. Essential References:

1. **Cyril W. Lander, 1993, "Power electronics", 3rd edition, McGraw-Hill.**
2. **B. W. Williams, 1992, Power Electronics, Devices, Drivers, Application and Passive components**
3. **Fang Lin Luo, Hong Ye, Muhammad Rashid, "Digital Power Electronics and Applications", 2005, Elsev USA**
4. **E. Acha, Power Electronics control in Electrical system, 1st , 2002, Newnes**

3. Electronic Materials and Web Sites etc.

1. **www.goelectricdrive.com/**
2. **www.electricmachinery.com/**
3. **www.goelectricdrive.com/**
4. **http://www.ece.tamu.edu/~empelab/**

Journal :

IEEE Publisher
https://www.ieee.org

Elsevier Publisher **https://www.elsevier.org** **Science Direct Publisher** **https://www.Sciencedirect.com**

	ii. الضوابط والسياسات المتبعة في المقرر Course Policies
	بعد الرجوع للوائح الجامعة يتم كتابة السياسة العامة للمقرر فيما يتعلق بالآتي:
1	**سياسة حضور الفعاليات التعليمية Class Attendance:** **- يلتزم الطالب بحضور 75% من المحاضرات ويحرم في حال عدم الوفاء بذلك.** **- يقدم أستاذ المقرر تقريرا بحضور وغياب الطلاب للقسم ويحرم الطالب من دخول الامتحان في حال تجاوز الغياب 25% ويتم اقرار الحرمان من مجلس القسم.**
2	**الحضور المتأخر Tardy:** **- يسمح للطالب حضور المحاضرة إذا تأخر لمدة ربع ساعة لثلاث مرات في الفصل الدراسي، وإذا تأخر زيادة عن ثلاث مرات يحذر شفويا من أستاذ المقرر، وعند عدم الالتزام يمنع من دخول المحاضرة.**
3	**ضوابط الامتحان Exam Attendance/Punctuality:** **- لا يسمح للطالب دخول الامتحان النهائي إذا تأخر مقدار (20) دقيقة من بدء الامتحان** **- إذا تغيب الطالب عن الامتحان النهائي تطبق اللوائح الخاصة بنظام الامتحان في الكلية.**
4	**التعيينات والمشاريع Assignments & Projects:** **- يحدد أستاذ المقرر نوع التعيينات في بداية الفصل ويحدد مواعيد تسليمها وضوابط تنفيذ التكليفات وتسليمها.** **- إذا تأخر الطالب في تسليم التكليفات عن الموعد المحدد يحرم من درجة التكليف الذي تأخر في تسليمه.**
5	**الغش Cheating:** **- في حال ثبوت قيام الطالب بالغش في الامتحان النصفي أو النهائي تطبق عليه لائحة شؤون الطلاب.** **- في حال ثبوت قيام الطالب بالغش او النقل في التكليفات والمشاريع يحرم من الدرجة المخصصة للتكليف.**
6	**الانتحال Plagiarism:** **– في حالة وجود شخص ينتحل شخصية طالب لأداء الامتحان نيابة عنه تطبق اللائحة الخاصة بذلك**
7	**سياسات أخرى Other policies:** **- أي سياسات أخرى مثل استخدام الموبايل أو مواعيد تسليم التكليفات ..... الخ**