Sana'a University
Faculty of Engineering
Mechanical Engineering Department
Mechanical Engineering Program

21. Course Specification of Kinematics and Dynamics of Machines

I. Course Identification and General Information:						
1.	Course Title:	Kinematics and Dynamics of Machines.				
2.	Course Code & Number:	ME120.				
3.	Credit hours:	C.H				TOTAL CR. HRS.
		Th.	Seminar/Tu	Pr	Tr.	
		2	2	-	-	3
4.	Study level/ semester at which this course is offered:	Second Year-First Semester.				
5.	Pre –requisite (if any):	Dynamics**.**				
6.	Co –requisite (if any):	None.				
7.	Program (s) in which the course is offered:	Mechanical Engineering Program.				
8.	Language of teaching the course:	English Language.				
9.	Location of teaching the course:	Mechanical Engineering Department.				
10.	Prepared By:	Asst. Prof. Dr. Abdulsalam Almakhlafy				
11.	Date of Approval:					

II. Course Description:

Kinematics and Dynamics of Machines is a branch of Mechanical Engineering Science, which deals with the study of relative motion between the various parts of machine, and forces which act on them. The course provides the foundation for the study of displacements, velocities, accelerations, and static and dynamic forces required for the proper design of mechanical linkages, cams, and mechanism systems. The knowledge of this subject is very essential for an engineer in designing the various parts of a machine.

III. Alignment course intended learning outcomes (CILOs) of the course		Referenced PILOs
a1	Define the dynamic (position, velocity, acceleration, force and torque) characteristics for all the mechanisms components such as linkages and cam.	A1

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Asst. Prof. Dr. Adel Ahmed Al-Shakiri	Assoc. Prof. Dr. Mohammad Algorafi	Prof. Dr. Mohammed AL-Bukhaiti	Assoc. Prof. Dr. Huda Al-Emad	Prof. Dr. Al-Qassim Mohammed Abbas

a2	Identify the fundamental concepts of: chain, links, joints, open kinematics chain, closed kinematics chain, and degree of freedom of mechanisms.	A2
b1	Analyze the motion of every part in the mechanism.	B1
b2	Determine the dynamic (position, velocity, acceleration, force and torque) characteristics for all the mechanisms components such as linkages and cam.	B2
c1	Apply computer programing to demonstrate the motion of the mechanism.	C1
d1	Show the mechanisms motion by Carry out group manufacturing projects.	D1

(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1- Define the dynamic (position, velocity, acceleration, force and torque) characteristics for all the mechanisms components such as linkages and cam.	Lectures, Tutorials Laboratory, Seminars	Examinations, Laboratory Reports, Homework, Presentations
a2- Identify the fundamental concepts of: chain, links, joints, open kinematics chain, closed kinematics chain, and degree of freedom of mechanisms.	Lectures, Tutorials Laboratory, Seminars Projects	Examinations, Laboratory Reports, Homework, Presentations, Individual and Group Project Reports.

(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Analyze the motion of every part in the mechanism.	Lectures, Tutorials Laboratory, Seminars Projects	Examinations, Laboratory Reports, Homework, Presentations, Individual and Group Project Reports.

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b2- Determine the dynamic (position, velocity, acceleration, force and torque) characteristics for all the mechanisms components such as linkages and cam.	Lectures, Tutorials Laboratory, Seminars Projects	Examinations, Laboratory Reports, Homework, Presentations, Individual and Group Project Reports.

© **Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:**		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c1- Apply computer programing to demonstrate the motion of the mechanism.	Lectures, Laboratory, Seminars, Small Group Projects	Examinations, Laboratory Reports, Presentations, Individual and Group Project Reports

(D) **Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:**		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1- Show the mechanisms motion by Carry out group manufacturing projects.	Laboratory, Seminars, Small Group Projects	Presentations, Reports

IV. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact hours
1	Introduction and Simple Mechanisms:	a1	• Link or Elements, Types of Links. • Structure. Machines and mechanism. Kinematic Pair. Motions.	1	2

			• Types of Joints in a Chain. Number of Degrees of Freedom for Plane Mechanisms. • Application of Kutzbach Criterion to Plane Mechanisms. • Grubler's Criterion for Plane. Four Bar Mechanism. • Single Slider Crank Mechanism. • Double Slider Crank Mechanism.		
2	Computer Simulation	b1,b2,c1	MATLAB SAM61	1	2
3	Position and Velocity in Mechanisms.	a2,b1,b2	• Motion of a Linkage in the Mechanism. • Position and Relative Position of Two Points. • Relative Velocity of Two Points in a Linkage. • Velocity of a Point on a Link by Relative Velocity Method. • Velocities in a Slider Crank Mechanism. • Rubbing Velocity at a Pin Joint. • Solution Methods • Forces Acting in a Mechanism. • Mechanical Advantage.	2	4
4	Acceleration in Mechanisms	a2,b1,b2	• Acceleration of a Point on a Link. • Acceleration in the Slider Crank Mechanism. • Analytical Solution of Acceleration for Mechanism Parts.	2	4

			• Graphical Solution of Acceleration for Mechanism Parts. • Coriolis Component of Acceleration		
5	Cams	a1,a2,b2	• Introduction • Classification of Followers and Cams. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Uniform Velocity. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Simple Harmonic Motion. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Uniform Acceleration and Retardation. • Construction of Cam Profiles. • Cams with Specified Contours. • Tangent Cam with Reciprocating Roller Follower. Circular Arc Cam with Flat-faced Follower.	1	2
6	Mid. Term Exam	a1,a2, b1,b2	All Previous Topics	1	2
7	Cams	a1,a2,b2	• Introduction • Classification of Followers and Cams. • Displacement, Velocity and Acceleration Diagrams when	1	2

			the Follower Moves with Uniform Velocity. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Simple Harmonic Motion. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Uniform Acceleration and Retardation. • Construction of Cam Profiles. • Cams with Specified Contours. Tangent Cam with Reciprocating Roller Follower. Circular Arc Cam with Flat-faced Follower.		
8	Static Force Analysis in Mechanisms	a1,a2,b1,b2	• Horizontal and Vertical Mechanism Position. • Forces and Moments Analysis in each Linkage in the Mechanism. • Four Link Mechanism Forces Analysis. • Quick Return Mechanism. • Six link Mechanism.	1	2
9	Balancing of Rotating Masses	a1,a2,b1,b2	• Balancing of Rotating Masses. • Balancing of a Single Rotating Mass by a Single Mass Rotating in the Same Plane. • Balancing of a Single Rotating Mass by Two Masses Rotating in Different Planes. • Balancing of Several Masses Rotating in the Same Plane.	1	2

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			Balancing of Several Masses Rotating in Different Planes		
10	Dynamics Force Analysis in Mechanisms	a2,b1,b2	• Inertia Forces of a Reciprocating Engine Mechanism. • Four Link Mechanism. • Quick Return Mechanism	1	2
11	Gyroscopic Couple and Processional Motion	b1,b2,c1,d1	• Introduction. • Precessional Angular • Motion. • Gyroscopic Couple. • Effect of Gyroscopic Coupleon an Aeroplane. • Terms Used in a Naval Ship. • Effect of Gyroscopic Couple on a Naval Ship during Steering. • Effect of Gyroscopic Couple on a Naval Ship during Pitching. • Effect of Gyroscopic Couple on a Navalship during Rolling. • Stability of a Four Wheel drive Moving in a Curved Path. • Stability of a Two Wheel Vehicle Taking a Turn. • Effect of Gyroscopic Couple on a Disc Fixed Rigidly at a Certain Angle to a Rotating Shaft.	2	4
12	Review	a1,a2,b1,b2,c1		1	2

13	Final Exam	a1,a2,b1,b2 ,c1		1	2
Number of Weeks /and Units Per Semester				**16**	**32**

B - Practical Aspect:

Order	Tasks/ Experiments	Number of Weeks	Contact hours	Learning Outcomes
1	Types of Mechanism Mechanism Mobility/ Motion Analysis of Mechanism/Types of Motion In Mechanism Elements.	1	2	a1
2	Determine Positions in Mechanisms. Determine Velocity of Points in Mechanism Elements. Graphical and Analytical Methods.	1	2	a2
3	Acceleration Analysis in Mechanism Elements. Determine the Elements Acceleration. Determine Acceleration of a Point in Any Mechanism Linkage. Analytical And Graphical Methods.	1	2	b1,b2
4	Cam Profile Drawing According to the Follower Motion.	1	2	b1,.b1
5	Static Forces Analysis in Mechanism	1	2	b1,b2
6	Dynamic Forces Analysis in Mechanism.	1	2	a1, b1,b2
7	Mass Balancing in Rotating Shafts.	1	2	a1, b1,b2
8	Gyroscopic Couple and Processional Motion	1	2	b1,b2,c1,d1
9	Computer Program Motion Simulation	1	2	b1,b2,c1,d1
10	Project Fabrication.	1	2	b1,b2,c1,d1
11	Slid Crank Mechanism Experimental	1	2	b1,b2,c1,d1
12	Cam Experimental	1	2	b1,b2,c1,d1
13	Review	2	4	

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Number of Weeks /and Units Per Semester	14	28	

V. Teaching strategies of the course:

- Lectures that include white board, projector presentation and media work learning.
- Tutorials
- Laboratory
- Seminars
- Projects

VI. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Drawing mechanisms using computer software and simulate the mechanism motion.	a2,b1,b2,c1	4th week	15
2	Solutions of mechanisms using MATLAB.	a2,b1,b2,c1	8th week	15
3	Carryout fabrication mechanism projects in groups.	d1	14th week	15
	Total			**45**

VII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignment: problem-based homework, computer programing, software simulation and fabrication manufacturing.	4th , 8th , 14th weeks	45	30%	a1,a2,b1,b2,c1,d1
2	Quizzes	3rd ,14th week	10	6.67%	a1,a2,b1,b2,c1,d1
3	Mid-Term Exam	8th week	20	13.33%	a1,a2,b1,b2,c1,d1
4	Final Exam	16th week	75	50%	a1,a2,b1,b2,c1,d1
Total			**150**	**100%**	

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VIII. Learning Resources:

- *Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher).*

1- Required Textbook(s) (maximum two).

1. Khurmi Gupta, 2006, Theory of Machines, Eurasia Publishing House Pvt. Ltd.
2. J. J. Uicker Jr, GR Pennock, J. E. Shigley. 2003, "Theory of Machines and Mechanisms", University Press, Inc., New York.

2- Essential References.

1. Myszka, David H., 2012, Machines and Mechanisms, 4 th Ed., Publishing as Prentice Hall, One Lake Street,Upper Saddle River,New Jersey, 07458.
2. S.S.Rattan "Theory of Machine", McGraw Hill companies, 2 nd Edition.
3. P.L.Ballaney Theory of Machines Khanna Publication.

3- Electronic Materials and Web Sites *etc*.

1. sam61
2. solid work
3. www.howstuffworks.com
4. http://www.purdue.edu/discoverypark/PLM/SME/Tutorial_6_Crank_Slider.zip
5. http://www.purdue.edu/discoverypark/PLM/SME/Cams_Design.bin

IX. Course Policies:

1.	**Class Attendance:** -A student should attend not less than 75 % of total hours of the subject; otherwise he will not be able to take the exam and will be considered as exam failure. If the student is absent due to illness, he/she should bring an approved statement from university Clinic
2.	**Tardy:** - For late in attending the class, the student will be initially notified. If he repeated lateness in attending class he will be considered as absent.
3.	**Exam Attendance/Punctuality:** - A student should attend the exam on time. He is Permitted to attend an exam half one hour from exam beginning, after that he/she will not be permitted to take the exam and he/she will be considered as absent in exam.
4.	**Assignments & Projects:**

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	- The assignment is given to the students after each chapter; the student has to submit all the assignments for checking on time.
5.	**Cheating**: - For cheating in exam, a student will be considered as failure. In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty.
6.	**Plagiarism**: Plagiarism is the attending of a student the exam of a course instead of another student. If the examination committee proved a plagiarism of a student, he will be disengaged from the Faculty. The final disengagement of the student from the Faculty should be confirmed from the Student Council Affair of the university.
7.	**Other policies:** - Mobile phones are not allowed to use during a class lecture. It must be closed, otherwise the student will be asked to leave the lecture room - Mobile phones are not allowed in class during the examination. Lecture notes and assignments my given directly to students using soft or hard copy

Reviewed By	**Vice Dean for Academic Affairs and Post Graduate Studies: Asst. Prof. Dr. Tarek A. Barakat** **President of Quality Assurance Unit: Assoc. Prof. Dr. Mohammed Algorafi** **Name of Reviewer from the Department: Assoc.Prof. Dr. Khalil Al-Hatab**
	Deputy Rector for Academic Affairs Asst. Prof. Dr. Ibrahim AlMutaa **Assoc. Prof. Dr. Ahmed Mujahed** **Asst. Prof. Dr. Munasar Alsubri**

21. Course Plan of Kinematics and Dynamics of Machines

I. Information about Faculty Member Responsible for the Course:							
Name of Faculty Member	Abdulsalam Naji	**Office Hours**					
Location& Telephone No.	Mech. .Dept.	**SAT**	**SUN**	**MON**	**TUE**	**WED**	**THU**
E-mail	Drabdulsalam2@gmial.com						

Head of Department Asst. Prof. Dr. Adel Ahmed Al-Shakiri	Quality Assurance Unit Assoc. Prof. Dr. Mohammad Algorafi	Dean of the Faculty Prof. Dr. Mohammed AL-Bukhaiti	Academic Development Center & Quality Assurance Assoc. Prof. Dr. Huda Al-Emad	Rector of Sana'a University Prof. Dr. Al-Qassim Mohammed Abbas

II. Course Identification and General Information:

1.	Course Title:	Kinematics and Dynamics of Machines.				
2.	Course Number & Code:	ME120.				
3.	Credit hours:	C.H				TOTAL CR. HRS.
		Th.	Seminar/Tu	Pr	Tr.	
		2	2	-	-	3
4.	Study level/year at which this course is offered:	Second Year-First Semester.				
5.	Pre –requisite (if any):	Dynamics (BR002)**.**				
6.	Co –requisite (if any):	None				
7.	Program (s) in which the course is offered	Mechanical Engineering Program.				
8.	Language of teaching the course:	English Language.				
9.	System of Study:	Semesters.				
10.	Mode of delivery:	Lectures and Lab.				
11.	Location of teaching the course:	Mechanical Engineering Department.				

III. Course Description:

Kinematics and Dynamics of Machines is a branch of Mechanical Engineering Science, which deals with the study of relative motion between the various parts of machine, and forces which act on them. The course provides the foundation for the study of displacements, velocities, accelerations, and static and dynamic forces required for the proper design of mechanical linkages, cams, and mechanism systems. The knowledge of this subject is very essential for an engineer in designing the various parts of a machine.

IV. Intended learning outcomes (ILOs) of the course:

- Brief summary of the knowledge or skill the course is intended to develop**:**

1. Define the dynamic (position, velocity, acceleration, force and torque) characteristics for all the mechanisms components such as linkages and cam.
2. Identify the fundamental concepts of: chain, links, joints, open kinematics chain, closed kinematics chain, and degree of freedom of mechanisms.
3. Analyze the motion of every part in the mechanism.
4. Determine the dynamic (position, velocity, acceleration, force and torque) characteristics for all the mechanisms components such as linkages and cam.
5. Apply computer programing to demonstrate the motion of the mechanism.
6. Show the mechanisms motion by Carry out group manufacturing projects.

V. Course Content:

- Distribution of Semester Weekly Plan Of course Topics/Items and Activities.

A – Theoretical Aspect:

Order	Topics List	Sub Topics List	Week Due	Contact Hours
1	Introduction and Simple Mechanisms	• Link or Elements, Types of Links. • Structure. Machines and mechanism. Kinematic Pair. Motions. • Types of Joints in a Chain. Number of Degrees of Freedom for Plane Mechanisms. • Application of Kutzbach Criterion to Plane Mechanisms. • Grubler's Criterion for Plane. Four Bar Mechanism. • Single Slider Crank Mechanism. • Double Slider Crank Mechanism.	1st week	2
2	Computer Simulation	• MATLAB SAM61	2nd week	2
3	Position and Velocity in Mechanisms.	• Motion of a Linkage in the Mechanism. • Position and Relative Position of Two Points. • Relative Velocity of Two Points in a Linkage. • Velocity of a Point on a Link by Relative Velocity Method.	3rd -4th week	4

		• Velocities in a Slider Crank Mechanism. • Rubbing Velocity at a Pin Joint. • Solution Methods • Forces Acting in a Mechanism. • Mechanical Advantage.		
4	Acceleration in Mechanisms	• Acceleration of a Point on a Link. • Acceleration in the Slider Crank Mechanism. • Analytical Solution of Acceleration for Mechanism Parts. • Graphical Solution of Acceleration for Mechanism Parts. • Coriolis Component of Acceleration	5^{th}-6^{th} week	4
5	Cams	• Introduction • Classification of Followers and Cams. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Uniform Velocity. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Simple Harmonic Motion. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Uniform Acceleration and Retardation. • Construction of Cam Profiles. • Cams with Specified Contours. • Tangent Cam with Reciprocating Roller Follower. Circular Arc Cam with Flat-faced Follower.	7^{th} week	2
6	Mid. Term Exam	• All Previous Topics	8^{th} week	2
7	Cams	• Introduction • Classification of Followers and Cams. • Displacement, Velocity and Acceleration Diagrams when the	9^{th} week	2

		Follower Moves with Uniform Velocity. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Simple Harmonic Motion. • Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Uniform Acceleration and Retardation. • Construction of Cam Profiles. • Cams with Specified Contours. Tangent Cam with Reciprocating Roller Follower. Circular Arc Cam with Flat-faced Follower.		
8	Static Force Analysis of Mechanisms	• Horizontal and Vertical Mechanism Position. • Forces and Moments Analysis in each Linkage in the Mechanism. • Four Link Mechanism Forces Analysis. • Quick Return Mechanism. • Six link Mechanism.	10^{th} week	2
9	Balancing of Rotating Masses	• Balancing of Rotating Masses. • Balancing of a Single Rotating Mass by a Single Mass Rotating in the Same Plane. • Balancing of a Single Rotating Mass by Two Masses Rotating in Different Planes. • Balancing of Several Masses Rotating in the Same Plane. Balancing of Several Masses Rotating in Different Planes	11^{th} week	2
10	Dynamics Force Analysis of Mechanisms	• Inertia Forces of a Reciprocating Engine Mechanism. • Four Link Mechanism. • Quick Return Mechanism	12^{th} week	2

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11	Gyroscopic Couple and Precessional Motion	• Introduction. • Precessional Angular • Motion. • Gyroscopic Couple. • Effect of Gyroscopic Coupleon an Aeroplane. • Terms Used in a Naval Ship. • Effect of Gyroscopic Couple on a Naval Ship during Steering. • Effect of Gyroscopic Couple on a Naval Ship during Pitching. • Effect of Gyroscopic Couple on a Navalship during Rolling. • Stability of a Four Wheel drive Moving in a Curved Path. • Stability of a Two Wheel Vehicle Taking a Turn. • Effect of Gyroscopic Couple on a Disc Fixed Rigidly at a Certain Angle to a Rotating Shaft.	13th-14th week	4
12	Review		15th week	2
13	Final Exam		16th week	2
Number of Weeks /and Units Per Semester			**16**	**32**

B – Practical Aspect:

Order	Topics List	Week Due	Contact Hours
1	Types of Mechanism Mechanism Mobility/ Motion Analysis of Mechanism/Types of Motion In Mechanism Elements.	2nd week	2
2	Determine Positions in Mechanisms. Determine Velocity of Points in Mechanism Elements. Graphical and Analytical Methods.	3rd week	2
3	Acceleration Analysis in Mechanism Elements. Determine the Elements Acceleration.	4th week	2

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	Determine Acceleration of a Point in Any Mechanism Linkage. Analytical And Graphical Methods.		
4	Cam Profile Drawing According to the Follower Motion.	5th week	2
5	Static Forces Analysis in Mechanism	6th week	2
6	Dynamic Forces Analysis in Mechanism.	7th week	2
7	Mass Balancing in Rotating Shafts.	8th week	2
8	Gyroscopic Couple and Processional Motion	9th week	2
9	Computer Program Motion Simulation	10th week	2
10	Project Fabrication.	11th week	2
11	Slid Crank Mechanism Experimental	12th week	2
12	Cam Experimental	13th week	2
13	Review	14th , 15th	4
Number of Weeks /and Units Per Semester		**14**	**28**

VI. Teaching strategies of the course:

- Lectures that include white board, projector presentation and media work learning.
- Tutorials
- Laboratory
- Seminars
- Projects

VII. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Drawing mechanisms using computer software and simulate the mechanism motion.	a2,b1,b2,c1	4th week	15

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2	Solutions of mechanisms using MATLAB.	a2,b1,b2,c1	8th week	15
3	Carryout fabrication mechanism projects in groups.	d1	14th week	15
	Total			**45**

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Type of Assessment Tasks	Week Due	Mark	Proportion of Final Assessment
1	Assignment: problem-based homework, computer programing, software simulation and fabrication manufacturing.	4th , 8th , 14th weeks	45	30%
2	Quizzes	3rd ,14th week	10	6.67%
3	Mid-Term Exam	8th week	20	13.33%
4	Final Exam	16th week	75	50%
Total			**150**	**100%**

IX. Learning Resources:

• *Written in the following order: (Author – Year of publication – Title – Edition – Place of publication – Publisher).*

1- Required Textbook(s) (maximum two).

1. Khurmi Gupta, 2006, Theory of machines, Eurasia Publishing House Pvt. Ltd.
2. J. J. Uicker Jr, GR Pennock, J. E. Shigley. 2003, "Theory of Machines and Mechanisms", University Press, Inc., New York.

2- Essential References.

1. Myszka, David H. (2012, Machines and mechanisms, 4th Ed., Prentice Hall.
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3. P.L. Ballaney Theory of machines Khanna Publication

3- Electronic Materials and Web Sites *etc*.

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1. sam61
2. solid work
3. www.howstuffworks.com
4. http://www.purdue.edu/discoverypark/PLM/SME/Tutorial_6_Crank_Slider.zip
5. http://www.purdue.edu/discoverypark/PLM/SME/Cams_Design.bin

X. Course Policies:

1.	**Class Attendance:** -A student should attend not less than 75 % of total hours of the subject; otherwise he will not be able to take the exam and will be considered as exam failure. If the student is absent due to illness, he/she should bring an approved statement from university Clinic
2.	**Tardy:** - For late in attending the class, the student will be initially notified. If he repeated lateness in attending class he will be considered as absent.
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4.	**Assignments & Projects:** - The assignment is given to the students after each chapter; the student has to submit all the assignments for checking on time.
5.	**Cheating**: - For cheating in exam, a student will be considered as failure. In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty.
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7.	**Other policies:** - Mobile phones are not allowed to use during a class lecture. It must be closed, otherwise the student will be asked to leave the lecture room - Mobile phones are not allowed in class during the examination.

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	Lecture notes and assignments my given directly to students using soft or hard copy