

**NORTHEASTERN TECHNICAL COLLEGE
COURSE OUTLINE**

COURSE	PREFIX NO.	EFFECTIVE DATE	NEXT REVIEW DATE		
IMT	161	Fall 2009	Fall 2011		
TITLE:		CREDITS	CONTACTS		
			CLASS	LAB	TOTAL
MECHANICAL POWER APPLICATIONS		4	3	3	4

PREREQUISITES: None

DESCRIPTION: **LEVEL I:** This course covers mechanical transmission devices, including procedures for installation, removal, and maintenance.

LEVEL II: Introduction to fundamental industrial mechanical concepts, principles, and equipment. Specific topics such as rigging and lifting, ladders and scaffolds, hydraulics and pneumatics, lubrication bearings, flexible belt and mechanical drives, vibration, alignment, and electricity, and many useful tables, charts, and other supplemental reference material.

TEXTBOOK(S) OR ALTERNATIVE: Davis. Audel Millwrights & Mechanics Guide, 5th ED. John Wiley, 2004.

MATERIALS (* specifying those to be purchased by student):

COLLATERAL READING: Assorted handouts—CR Industries Bearing and Shaft Seal course booklet.

CLASS MANAGEMENT ACTIVITIES (Attendance, tardies, testing, etc.):

Each student is expected to be on time.

Three (3) "tardies" will constitute one absence.

Absences in excess of 10% (9 class hours) will result in being dropped for excessive absenteeism.

There will be a test given following each chapter. A final exam will be given at the end of class.

ACADEMIC DISHONESTY: Students are expected to do their own work. Please refer to the NETC Student Code and Grievance Procedure for definition of academic dishonesty and an outline of disciplinary action that may result therefrom.

DISABILITIES STATEMENT: Students with disabilities are encouraged to contact the Vice President for Student Services to discuss

needs or concerns as they pursue an academic program and participate in campus life. The Vice President for Student Services will provide guidance regarding official documentation of disabilities and/or accommodation of needs. (See *College Catalog*).

STUDENT ID: It is mandatory that every student wear his or her student ID at all times. The instructor will dismiss students without ID from class. The student may get his/her ID and return to class before the midpoint of the class. If the student cannot get his/her ID and return to class by the midpoint, the instructor will record the absence.

RESOURCES (A-V, persons, tools/equipment): VISUAL TEXT MATERIAL
TEL-A-TRAIN; Video Tapes

1. Bearings
2. Anti-Friction Bearings
3. Lubricating Ball Bearings
4. Couplings
5. Coupling Assignment Pt. I
6. Coupling Assignment Pt. II
7. Roller Chains
8. Chains Other Than Roller
9. Timing Belts and Flat Belts
10. Basic Terms of Maintenance
11. Preventive Maintenance

TPC Training Systems; Skills Training Program

1. Bearings
2. Lubrication

Industrial Training, Inc.

1. Selecting and Using Lubricants

COURSE TOPICAL OUTLINE (List topics and sub-topics of course) and
CALENDAR of approximate length of time devoted to topic.

<u>REFERENCES/TEXT CHAPTERS</u>	<u>MAJOR TOPICS</u>	<u>WEEK</u>
Text Chapters 9, 10 Visuals	Bearings/Seals	1, 2
Text Chapter 8 Visuals	Couplings/Coupling Assignment	3, 4
Text Chapter 6 Visuals	Gears/Gear Calculations	5, 6

Text Chapters 3, 4, 5 Visuals	Power Transmissions	7, 8
Text Chapter 7 Visuals	Chain Drive	9
Text Chapters 3-10	Preventive Maintenance	10

OBJECTIVES OF COURSE:

Industrial mechanics must be proficient in the disassembly, inspection repair and reassembly of machinery and components in order to meet industry standards.

Students who have successfully completed this course will have demonstrated the skills and knowledge required to accomplish the following objectives:

1. Bearing identification, removal, inspection, and installation.
2. Coupling identification, inspection, and coupling alignment procedures.
3. Gear identification, inspection, and gear calculations.
4. Power transmissions identification, procedures, and calculations.
5. Chain drive identification, installation procedures.
6. Lubricant id., procedures and proper utilization of various lubricants.
7. Understanding of preventive maintenance techniques and procedures.

INSTRUCTIONAL METHODS TO COMPLETE OBJECTIVES:

1. Lecture
2. Lab activities

EVALUATIVE METHODS TO APPRAISE OBJECTIVES:

Student's progress and evaluation will be measured by objective tests following coverage of each chapter and by instruction evaluation of the student's participation in laboratory instruction and assignments. A final exam will also be given.

FINAL GRADE AVERAGE will be based on the following:

- 90 - 100 = A
- 80 - 89 = B
- 70 - 79 = C
- 60 - 69 = D
- 0 - 59 = F