**MT3.819: Bearings and Lube Systems**

Linn-Benton Community College – Spring 2020

2 Credit Hours

**Instructor: Ken Dickson-Self** **Office hours:** Online meetings available

Office: IA-112A **Phone:** 541-917-4942 (forwards to mobile)

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**REQUIRED TEXT:**

1. **Industrial Mechanics (4th edition), Text and Workbook.** Kemp, Alfred W.
2. Access to [Moodle](https://moodle.linnbenton.edu/login/index.php)

**COURSE DESCRIPTION:**

Learn to troubleshoot, maintain, and repair bearings and lubrication systems. The fundamentals of vibration and oil analysis, handling and mounting bearings, and operating lubrication systems are included in this training. Emphasis is placed on the relationship between lubrication and energy efficiency.

**COURSE OUTCOMES**

Upon successful completion of this course, students will be able to:

1. Operate a lubrication system
2. Troubleshoot and maintain bearings and lubrication systems
3. Promote energy efficiency and sustainability.

**GRADING**

Final Grade Calculation:

|  |  |  |
| --- | --- | --- |
| Letter Grade | Percentage | Performance |
| A | 90-100% | Excellent Work |
| B | 80-89% | Good Work |
| C | 70-79% | Average Work |
| D | 60-69% | Poor Work |
| F | 0-59% | Failing Work |

Final Grade: Determined by the following breakdown:

Workbook (Chapters 8 & 9) 40%

Video questions 40%

Lubrication Project (final project) 20%

 100%

**WORKBOOK**

You will have to read Chapters 8 and 9 from the Industrial Mechanics (4th edition) textbook, then answer questions from the workbook and upload them into Moodle. The easiest way to do this is probably to type your answers in a separate document, but if you want to write in your workbook then scan those pages and submit them, you can.

**VIDEO QUESTIONS**

You will watch several videos and capture main themes from the videos. These videos will help you complete your lubrication project at the end of the term.

**LUBRICATION DOCUMENT**

This paper will be your final project. In it, you will explain how you would run the lubrication program for a modern industrial facility to balance costs, environmental impacts, quality, and efficiency.

**ASSIGNMENTS, LATE WORK AND ATTENDANCE**

All assignments will be done in Moodle. Please keep track of due dates. Do not email assignments to me. Late assignments lose 10% of possible points for every *portion* of a day they are late. The homework assignments are important to your grade. Do them early or do a little each day to keep from falling behind.

**ACADEMIC HONESTY:**
Students are expected to follow [LBCC policies](http://www.linnbenton.edu/current-students/administration-information/policies/students-rights-responsibilities-and-conduct) regarding academic integrity as articulated in the Students’ Rights Responsibilities and Conduct Policy. Students found to be involved in academic dishonesty will receive a failing grade in this course.

**SPECIAL ACCOMMODATIONS:**

LBCC is committed to inclusiveness and equal access to higher education. If you have approved accommodations through the Center for Accessibility Resources (CFAR) and would like to use your accommodations in this class, please talk to your instructor as soon as possible to discuss your needs. If you believe you may need accommodations, but are not yet registered with CFAR, please go to <http://linnbenton.edu/cfar> for steps on how to apply for services or call 541-917-4789.

**LBCC STATEMENT ON DIVERSITY AND NONDISCRIMINATION:**
We believe that the LBCC community is enriched by diversity. Everyone has the right to think, learn, and work in an environment of respect, tolerance, and goodwill. LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws (for further information <http://po.linnbenton.edu/BPsandARs/>).

**SCHEDULE**

|  |  |  |
| --- | --- | --- |
| **Week** | **Topic of the week** | **Work Due** |
| 1 | Lubrication – Lecture 1 |  |
| 2 | Lubrication – Lecture 2 | Workbook – Chapter 8 |
| 3 | Video 1 | Video Questions 1 |
| 4 | Video 2 | Video Questions 2 |
| 5 | Bearings – Lecture 3 |  |
| 6 | Bearings – Lecture 4 | Workbook – Chapter 9 |
| 7 | Video 3 | Video Questions 3 |
| 8 | Video 4 | Video Questions 4 |
| 9 | Final Project |  |
| 10 | Energy Efficiency | Final Project |