Mohawk valley community college
Utica and Rome New york

PHYSICAL SCIENCE, ENGINEERING & APPLIED TECHNOLOGIES DEPARTMENT

COURSE OUTLINE

Mechanical Systems MT 139

4.0 Credit Hours

Lecture CRN: 29284 Section 700 Wednesday AB

LAB CRN: 29285 Section 701 Class M 5:45PM-9:55PM AB 207

REVIEWED AND FOUND ACCEPTABLE BY:

David Smith on January 3, 2024

Dave Smith - Instructor

Office: IT 157

Phone: 315-792-5607

email: dsmith3@mvcc.edu  **(preferred method)**

 Office hours: Spring 2024 M 4:00-5:00PM

1. Course or Catalog Description:

MT139 Mechanical Systems **C-2 P-4 Cr-4**

This course is a study of the basic mechanical components in a complex mechatronics system. Topics include basic functions and physical properties of mechanical components and the roles they play in the system such as materials, lubrication requirements and surface properties, as well as troubleshooting techniques and strategies used to identify, localize, and correct malfunctions. Concepts in systemic preventative maintenance and mechanical component safety are presented along with technical documentation such as data sheets and specifications of mechanical elements.

1. Corequisites:

ET111 Electrical Systems

ET127 Modern Industrial Practice

MA105 Technical Math 1

1. Required Texts, Reading, Materials:

Title: Industrial Maintenance and Mechatronics

Author: Shawn A. Ballee and Gary R. Shearer

Edition: 1st Edition, illustrated

Publisher: Goodheart-Willcox Publisher, 2008

ISBN-10 ‏ : 63563427X

ISBN-13 ‏ : ‎ 978-1635634273

1. DETAILED COURSE OUTLINE:

Topics

|  |  |  |
| --- | --- | --- |
| Lecture 1 GW Cpt 4 Maintenance Tools |  | (1 period) |
| Lecture 2 GW Cpt 5 Fasteners |  | (1 period) |
| Lecture 3 C Cpt 4 Lubrication |  | (1 period) |
| Lecture 4 GW Cpt 9 Power transmission |  | (1 period) |
| Lecture 5 C Cpt 3 Basic Principals of Mechanical  |  | (1 period) |
| Lecture 6 GW Cpt 9 Power transmission |  | (1 period) |
| Lecture 7 GW Cpt 10 Bearings, seals, lubrication |  | (1 period) |
| Lecture 8 GW Cpt 11 Shafts, Coupling Alignment |  | (1 period) |
| Lecture 9 GW Cpt 12 Belts Pullies, chains, etc. |  | (1 period) |
| Lecture 10 C Cpt 11 Print reading |  | (1 period) |
| Lecture 11 GW Cpt 8 Rigging |  | (1 period) |
| Lecture 12 GW Cpt 13 Conveyors |  | (1 period) |
| Lecture 13 GW Cpt 14 troubleshooting |  | (1 period) |
| Lecture 14 GW Cpt 15 Fluid power |  | (1 period) |

GW - Industrial Maintenance and Mechatronics

C - Industrial Mechanics and Maintenance

1. LABORATORY EXPERIMENTS:

Student will complete each LAP and submit a complete all the questions, data, and activities. The results are recorded and submitted in a final written report.

1. LAP I (2 periods)
2. LAP II (2 periods)
3. LAP III (2 periods)
4. LAP IV (2 periods)
5. LAP V (2 periods)
6. LAP VI (2 periods)
7. LAP VII (2 periods)

Or make up

1. Method of Evaluation:

|  |  |
| --- | --- |
| Class Participation | 5% |
| Homework | 10% |
| LAPs | 30% |
| Module Exams (2 exams / 10%. each) | 25% |
| Quizzes | 15% |
| Final Exam | 15% |
| Total: | 100% |

1. Grading Policies:

|  |  |
| --- | --- |
| A | 90% – 100% |
| B | 80% – 89.9% |
| C | 70% – 79.9% |
| D | 60% – 69.9% |
| F | 0% – 59.9% |

1. Hybrid Course

As a hybrid, all class work (lectures, quizzes, tests, discussions) are self-directed and are found online through Blackboard (MVCC’s Online learning management system). Homework is downloaded from blackboard and submitted by uploading to Blackboard. Students attends the lab on campus and must be complete and submitted at the next lab. Training and support for Blackboard can be found through the learning center.

1. Hybrid Training and Tech support

If the student needs training or tech support for Blackboard, computer support or email, they should contact Tech Support Found under:

 MVCC Homepage / Academics / Tech Support

Tech Support for Online Learning at: <https://www.mvcc.edu/academics/online/tech-support.php>

While there download and read: “Student Technology Guide”

Or The Learning Center

1. Course Guidelines:
2. **Contact and Resources:**

Preferred method to contact the instructor is by school email. Homework assignments, lab documents, course support documents and power point documents will be available on Blackboard. Phone call are accepted but may be delayed in responding. Leave a method. Office hours are listed above and may be in AB 205 or the office in IT 157.

1. **Late Policies and attendance:**

Missed/late exams, labs and assignments will be count as a zero until completed.

All incomplete work must be complete before the final exam.

Each missed lab and lecture will count as zero as part of the Lab and Lecture attendance score.

1. **Late work:**

Late assignment or labs are assigned a 10% penalty at the discretion of the instructor.

Lab activities are complete when signed off by the instructor.

1. **Cancellation:**

The College has a class cancellation policy. If the college may be closed, follow the college policy (consult the MVCC web site at www.mvcc.edu)

If the instructor cancels class, it will be announced in the class prior to the class. If it is an emergency, an email will be sent to the class.

1. **Electronic Devices:**

In-class use of laptops, cell phones, pagers, mp3 players, tablets, and other electronic devices can be used for note taking. Devices must be silenced during class.

No devices can be use during exams without prior approval of the instructor.

**1. Academic Integrity:**Academic honesty and integrity is expected in all work done for this class.  Submitting the same work in more than one course without the permission of the involved instructors, copying the work of other students, using published work (Internet material is considered published work) without proper citation or otherwise attempting to receive academic credit for work that is not your own are all serious offenses.  Academic dishonesty may result in penalties including, but not limited to, lower grades, expulsion from the class or expulsion from the college.

**2.  Classroom & Campus Civility:**Mohawk Valley Community College is committed to civility in and out of the classroom.  MVCC believes everyone has the right to an environment that creates the safe opportunity for educational, professional and social development.  MVCC recognizes its responsibility to model and encourage a culture of civil behavior.

**3.  Disability Self-Identification Statement: Office of Accessibility Resources (OAR)**I would appreciate hearing from anyone in the class who has any type of disability (e.g., physical, learning, psychiatric, vision, hearing, medical etc.) which may require some special accommodation. Please see me during my office hours so that we can discuss your needs. Before services can begin, you must also contact the Office of Accessibility Resources, 315-792-5644, in Room 104H of the Payne Hall Building on the Utica Campus. (For classes on the Rome Campus, students should be referred to the Student Services Office, PC 102G, 315-334-7744). Staff members will review your documentation, determine your eligibility for accommodations, and decide what those accommodations will be.

**5.  DGV Statement:**Several years ago, MVCC initiated a program titled “Diversity-Global View” (DGV), which gave each of our graduates a chance to participate in educational experiences designed to increase awareness of intercultural perspectives.  Our goal in doing so was to enhance our students’ understanding of the realities faced by individuals as a result of their race, ethnicity, cultural background, gender, sexual orientation, socioeconomic status, academic abilities and interests, age, religious beliefs, and physical ability. To that end, all graduates who matriculated into programs in fall 2008 or more recently, or who have changed their major since 2008, are now required to complete the DGV components associated with the degree or certificate program in which they are enrolled. For more information please visit http://www.mvcc.edu/dgv.

**6. Title IX Statement:**Title IX states that no person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance.  Protections also extend to sexual harassment and sexual assault or violence that impairs or interferes with access to equitable educational and employment opportunities.  For more information, please visit the Title IX website at www.mvcc.edu/title-ix

**7.  Sustainability Statement**Mohawk Valley Community College is committed to development and implementation of a comprehensive sustainability plan. To that end, we are beginning by asking students, faculty, and staff to actively participate in energy conservation measures and proper recycling on campus. The Green Bins in every classroom are intended for all recyclables. They can take Paper, Plastic, Metal and Glass. Containers should be clean\* and empty. Any materials that cannot be recycled should be place in garbage cans. It is also important to turn off lights and computers when leaving a room. Together we can make an impact on conserving our resources. Remember to reduce, reuse and recycle!

\*Clean means free of food residue, so pudding and yogurt containers should be rinsed. Drink bottles need to be empty but do not need to be rinsed.
The instructor reserves the right to alter any element of this syllabus including course content and policies that govern how the classroom operates.

**8. Disclaimer**

The policies and procedures contained in this syllabus are subject to change in the event of extenuating circumstances or at the instructor’s discretion. Department of Labor – Open Educational Resources (DOL-OER) requirements

Except where otherwise noted, this work was created by Michael Higgins with Mohawk Community College and is licensed under a Creative Commons Attribution 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by/4.0/ or send a letter to Creative Commons, 444 Castro Street, Suite 900, Mountain View, California, 94041, USA.

This workforce solution was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The training solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites, and including, but not limited to accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

**COURSE NAME:** \_\_\_\_\_\_\_\_ **MT 139 Mechanical Systems**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **DATE** | **FACULTY NAME** | **CHANGE** | **INPUT** | **MEASUREMENT** | **ASSESSMENT** | **ACTION** |
| 1/14/16 | M. Higgins | Clean up format |  |  |  |  |
| 1/18/16 | M. Higgins | Expand Disclaimers | From NFI |  |  |  |
| 3/17/16 | M. Higgins | Detailed Course Outline and Schedule | From Text |  |  |  |
| 4/20/16 | M. Higgins | Reformat Course Outline and Schedule | From Sybil web page |  |  |  |
| 8/17/17 | M. Higgins | Reformat Course Outline and Schedule | From Sybil web page |  |  |  |
| 1/20/19 | M Higgins | Reviewed to conform to College Standards | Review Standards |  |  |  |
| 8/15/19 | M Higgins | Update CRNs, Sec #’s | SIRS |  |  |  |
| 8/17/20 | M Higgins | Update CRNs, Sec #’s | SIRS |  |  |  |
| 1/7/2021 | M Higgins | Update CRNs, Sec #’s | SIRS |  |  |  |
| 8/17/22 | M Higgins | Update CRNs, Sec #’s | SIRS |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |