AGEN 100 Tractor Care and Maintenance Syllabus
Mr. Cross (Lecture) and Mr. Davis (Lab)

Credits: Three credit hours
Lecture: Tuesday 10:00 – 10:50
            Thursday 10:00 – 10:50
Lab: Tuesday (03L) 2:00 – 3:50
       Wednesday (01L) 1:00 – 2:50
       Wednesday (02L) 3:00 – 4:50
       Thursday (04L) 4:00 – 5:50

Office Hours:
Monday: 11:00-11:50
Tuesday: 11:00-11:50
Thursday: 11:00-11:50 & 3:00-4:50

Office: 136 Marshall Hall
Lecture: 105 Crawford Hall
Lab: 117 Marshall Hall
Office phone: 684-6728
Email: crossrr@morrisville.edu
Web page: http://people.morrisville.edu/~crossrr

Course Description:
This course will focus on the care, adjustments and maintenance of gasoline and diesel powered tractors and equipment used in farm and industrial power applications. The fuel, lubrication, cooling, exhaust, clutch, brake, electrical and hydraulic systems will all be investigated. Principles of safety as applied to the operation, maintenance and repair of mobile machinery will be applied throughout the course. Tractor Care and Maintenance is designed to develop a basic competency in the respected field.

Course Objectives:
1. To develop the ability to recognize common machine hazards.
2. An understanding of workplace safety will be developed.
3. To develop a competency in the use of proper tools and various fasteners.
4. To provide an understanding in the care and maintenance of modern spark and compression ignition equipment.
5. A fundamental knowledge of drive trains (both mechanical as well as hydraulic) will be explored.
6. To comprehend the requirements for receiving a New York State Commercial Drivers License.
7. To form a basic understanding of bearings, seals, tires and tracks.
8. To provide a foundation for Diesel Technology and Agricultural Engineering majors to take AGEN 270 Tractor Overhaul and Repair.
Course Materials:
1. Course handouts given in class and/or available at the instructor’s web page.

Student Responsibilities:
1. To read the course syllabus and to ask questions if the material is unclear.
2. To attend all classes and labs.
3. To attend one’s scheduled lab unless previous arrangements are made with the instructor.
4. To make up any and all class work covered during their absence.
5. To complete on time all work including reading, homework, lab write-ups and the term project.
6. Student’s work will demonstrate careful, neat, complete and individual efforts.

Lab:
1. A lab write-up will be due after each lab. The lab write-up is due at the beginning of the following week’s lab. Unless otherwise noted, each lab will be submitted electronically as an email attachment.
2. Students are required to attend their scheduled lab unless previous arrangements have been made. Due to the fact that labs are balanced, every effort should be made to attend the scheduled lab.
3. Safety is the most important aspect of the lab work. If a student performs in an unsafe manner, he/she will first receive a verbal warning. If a second instance occurs the student will receive a written warning and the third instance could result in removal from the lab and course.

Attendance Policy:
- All attendance policies as listed below from the Student Handbook will be followed.
- If a student doesn’t attend a class, then he/she cannot participate.
- The missing of four classes will likely lead to removal from the class.

Excerpts from the student handbook regarding attendance:
- Students are expected to attend all scheduled classes and laboratories. However, special circumstances such as illness, religious holidays, travel difficulties, family emergencies and participation in college sponsored events may make certain absences unavoidable. In such instances, students should notify instructors of these special circumstances.
- Although regular class attendance will not guarantee passing grades, irregular attendance will usually have an adverse effect upon them. Because final student evaluation is based upon measurable academic achievement, however, instructors will not lower final grades solely on the basis of attendance.

Testing Accommodations:
If you wish to use test accommodations for an exam or need extra help to be successful in the course please speak with the instructor.
Plagiarism:
- The Student Handbook’s policy on plagiarism will be strictly followed. Students that plagiarize can receive an F for the entire course.

The Code of Academic Honesty from the Student Handbook

Academic honesty promotes continued academic and occupational success. Maintenance of academic honesty and quality education is the responsibility of both faculty and students. Any written assignment (including all electronic media) submitted by a student must be original authorship. Representation of another’s work as his/her own shall constitute plagiarism. Any charge of plagiarism must be substantiated by a direct correlation in wording and organization between the original and plagiarized copy.

Any examinations must be taken according to prescribed procedure, as determined by the faculty member in charge. Any form of unauthorized written material used by a student or evident on his/her person during or directly following an examination shall be deemed a violation of academic honesty. Unauthorized correspondence between students during any examination or preparation of submitted work, which cannot be substantiated by physical proof or eye witness verification, shall be considered an infraction of the code and shall subject involved parties to corrective procedures.

Use of Technology:

Morrisville State College is very proactive with the use of technology as is evident with your laptop computer and cellular phone. These are tools that you will likely use throughout your working career but it will be important to know proper technology etiquette. To help in this quest for proper etiquette, the following rules will be strictly enforced.
- An important feature of the cellular phone is the on/off switch. Discover where it is and the only expectable position of that switch is “OFF” during classes and labs.
- Laptop computers may be used during class for assignments and/or for taking notes but the use of wireless cards is prohibited during lectures and labs as is the playing of games and watching videos.

Grading:
- 15% Participation
- 45% Lab work
- 30% Homework, Quizzes and Tests
- 10% Final Exam
Course Topics:

1. Agricultural Machinery Safety
2. Fasteners
3. Intake and Exhaust Systems
4. Fuel Systems
5. Cooling Systems
6. Lubrication Systems
7. Tires and tracks
8. Power Trains
9. Hydraulic Systems

Lab Topics:

Lab 1 Safety Lab
Lab 2 PS/2
Lab 3 Valve adjustment
Lab 4 Compression & Cylinder Leakage Testing
Lab 5 Fasteners lab  torqueing bolts

Lab 6 Cooling systems
Lab 7 Lubrication lab
Lab 8 Bearings
Lab 9 Tires
Lab 10 CDL Lab I
Lab 11 CDL Lab II
Lab 12 Clutch Free Play
Lab 13 Intro to Power Transmission
Lab 14 Intro to Hydraulics