



RANGER COLLEGE  
RANGER, TEXAS

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COURSE SYLLABUS

**AGRICULTURAL POWER UNITS**

**AGRICULTURE 2301**

**3 credit hours**

**INSTRUCTOR: HERMAN GLUECK**

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EMAIL: hglueck@rangercollege.edu  
OFFICE: NO OFFICE  
PHONE: 254-631-5772  
HOURS: NO HOURS

### **I. Texas Core Curriculum Statement of Purpose**

Through the Texas Core Curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.

### **II. Course Description**

Fundamentals of internal combustion engines, gasoline, diesel, and liquefied petroleum. Maintenance and adjustments of the electrical, ignition, fuel, lubricating, and cooling systems of agricultural power machinery.

### **III. Required Background or Prerequisite**

No prerequisite

### **IV. Required Textbook and Course Materials**

Textbook: "Engines" by John Deere – ISBN #0-86691-354-8

### **V. Course Purpose**

The student should acquire some practical knowledge in:

1. The function of various engine components.
2. Skills necessary to maintain engines.
3. The types of fuels in use.
4. The types of lubricants in use.
5. The production of various fuels.

### **VI. Learning Outcomes**

None listed on the ACGM

## **VII. Core Objectives**

This course meets the following of the six Core Objectives established by Texas:

- X Critical Thinking Skills (CT)** – Creative thinking, innovation, inquiry, and analysis; evaluation and synthesis of information
- X Communication Skills (COM)** – effective development, interpretation and expression of ideas through written, oral, and visual communication
- X Empirical and Quantitative Skills (EQS)** – The manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- X Teamwork (TW)** – The ability to consider different points of view and to work effectively with others to support a shared purpose or goal
- X Social Responsibility (SR)** – Intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
- X Personal Responsibility (PR)** – The ability to connect choices, actions, and consequences to ethical decision-making

## **VIII. Methods of Instruction**

1. Lecture with students answering questions in notebook.
2. Various TV presentations.
3. Various lab activities.

## **IX. Methods of Assessment**

1. Attendance.
2. Quality of work in notebook.

Grading scale: A = 90-100%    B = 80-89    C = 70-79    D = 60-69    F = Below 60

### **X. Course/Classroom Policies**

1. Attendance is mandatory.
2. No cell phone use unless instructed to do so.
3. Required to write answers in notebook.

### **XI. Course Outline/Schedule**

1. Types of engines.
2. Types of fuels.
3. Types of oil.
4. Types of grease.
5. Production of fuels.
6. Production of oil.
7. Production of grease.
8. Direct drive transmission.
9. Fluid drive transmission.
10. Steering systems.
11. Types of tires.
12. Types of implements.
13. Types of sprayer systems.
14. Types of tillage.
15. No tillage planters.

### **XII. Non-Discrimination Statement**

Admissions, employment, and program policies of Ranger College are nondiscriminatory in regard to race, creed, color, sex, age, disability, and national origin.

### **XIII. ADA Statement**

Ranger College provides a variety of services for students with learning and/or physical disabilities. Students are responsible for making initial contact with the Ranger College Counselor, Gabe Lewis (glewis@rangercollege.edu). It is advisable to make this contact before or immediately after the semester begins.