

THE FORD RENEWABLE ENERGY SUMMER PROGRAM 2008 (FRE-SP)

For High School students completing 9th - 11th grades

SESSION 1: June 23 - June 27, 2008

SESSION 2: July 21 - July 25, 2008



Sponsored by the Biological Engineering Program at
North Carolina Agricultural & Technical State University
Greensboro, NC

2008 FORD RENEWABLE ENERGY SUMMER PROGRAM



Biological Engineering School of Agriculture and Environmental Sciences North Carolina Agricultural & Technical State University

The Ford Renewable Energy Summer Program (FRE-SP) is a summer outreach program conducted in the months of June and July to provide pre-college research opportunities to high school students. The candidates will be selected from the high school student applicants (9th thru 11th graders). This program is sponsored by the Biological Engineering Program at North Carolina A&T State University with funding from the Ford Foundation.

The purpose of the FRE-SP program is to familiarize students with contemporary energy issues such as energy production, energy consumption, energy efficiency, energy conservation as well as renewable energy and biofuel. Activities will include conducting experiments that illustrate basic energy concepts and renewable energy production models. A major part of the workshop will focus on the flexible fuel vehicles, their design principles and the fuels they use. Renewable transportation fuels such as ethanol, hydrogen, natural gas (methane), and biodiesel will be given special coverage. The instructors for the energy component consist of faculty, graduate and undergraduate students of the University.

The FRE-SP curriculum will address some of the energy issues as they relate to student lives. We will discuss how energy lights our homes and cities, how energy powers our cars, how energy warms our homes, cooks our food, and gives us pictures on television. We will demonstrate how various energy types are generated, converted to another type of energy, and demonstrate a method for quantifying each type of energy. Students will be introduced to non-renewable energy and renewable energy concepts as they conduct experiments in solar energy, hydrogen fuel cells, ethanol, and biodiesel production. The goal of FRE-SP is to raise student awareness about energy and environmental issues and alert them about the need for energy conservation.

FRE-SP is a one-week long, non-residential educational program which will meet daily from 8:30 a.m. to 4:30 p.m. Students may choose to attend Session 1: June 23, 2008 – June 27, 2008, or Session 2: July 21, 2008 – July 25, 2008. Field trips may be taken to expose students to many innovative energy production and utilization facilities in North Carolina.

There is no cost to students to attend this summer program.

APPLICATION: PERSONAL INFORMATION

Applications **MUST** be postmarked by **April 30, 2008**
Only completed applications will be reviewed

GUIDELINES FOR COMPLETING THE APPLICATION PACKET

PERSONAL INFORMATION

Complete the personal information below.

QUESTIONS

The questions in this packet must be answered in your own handwriting, signed and dated by the student.
One paragraph is all that is required to answer the questions in the space provided.

TRANSCRIPT

An official copy of your school transcript must be submitted with the application showing your cumulative grade point average. We realize that your last reporting evaluation (June) may not be available. An attendance report must also be included with your transcript.

LETTERS OF RECOMMENDATION

Two letters of recommendation must be included. The letters must be type-written on official letterhead or 8-1/2" x11" white paper (notebook paper is not acceptable). One of the letters must come from a representative of your school; the second letter may be written from someone who can speak about your character, such as your pastor or a scout leader.

*** SESSION 1: June 23 – June 27, 2008 OR SESSION 2: July 21 – July 25, 2008 ***

Today's Date: _____ Session you would like to attend (Session 1 or Session 2): _____

Name: _____
LAST FIRST MIDDLE INITIAL

Address: _____

CITY STATE/ZIP SS#: _____

Parent/Guardian: _____ Phone #: _____

School: _____
NAME

ADDRESS CITY

Please provide the following information for reporting purposes only:

Gender: female ___ male ___ Race: _____ Birth Date: _____ Age: _____

Current Grade for 2007–2008 School Year: circle one 9th 10th 11th Cumulative Grade Point Average: _____

Must have completed one Algebra course

Last Math course completed: _____ Next Math course to take: _____

Math Verbal

PSAT _____ / _____ (if taken)

SAT _____ / _____ (if taken)

PLEASE RETURN THE COMPLETED APPLICATION PACKET ALONG WITH AN OFFICIAL TRANSCRIPT AND 2 LETTERS OF RECOMMENDATION TO:

Ghasem Shahbazi, Professor and Director Biological Engineering Program
Department of Natural Resources and Environmental Design
North Carolina A&T State University
1601 East Market Street
Greensboro, NC 27411

APPLICATION: QUESTIONS

1) What is fossil fuel? _____

2) What is renewable energy? _____

3) What is the predominant fuel used to produce electricity in North Carolina?

APPLICATION: QUESTIONS

4) What fuel do people use in their family cars? Are there any renewable fuels that can be used in our family cars?

5) What is the "Greenhouse Effect" and what causes it?

Student signature _____

Date _____