

# THE FORD RENEWABLE ENERGY SUMMER PROGRAM 2007 (FRE-SP)

*For High School students completing 9th - 11th grades*

**SESSION 1: June 25 – June 29, 2007**

**SESSION 2: July 9 – July 13, 2007**



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

# APPLICATION: PERSONAL INFORMATION

Applications **MUST** be postmarked by **June 15**  
Only completed applications will be reviewed

## GUIDELINES FOR COMPLETING THE APPLICATION PACKET

· PERSONAL INFORMATION

Complete the personal information below.

· TRANSCRIPT

A 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 typewritten on official letterhead or white bond paper (notebook paper is not acceptable). One of the letters must come from a representative of your school; the second letter can be written from your pastor or someone who can speak about your character.

· 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.

\*\*\* SESSION 1: June 25 – June 29, 2007 OR SESSION 2: July 9 – July 13, 2007 \*\*\*

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

Gender: female \_\_\_ male \_\_\_ Race: \_\_\_\_\_ Birth Date: \_\_\_\_\_ Age: \_\_\_\_\_  
(for reporting purposes only)

Current Grade for 2006–2007 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 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?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

# APPLICATION: QUESTIONS

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

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Student signature \_\_\_\_\_ Date \_\_\_\_\_

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 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.

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. 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.

PLEASE RETURN THE COMPLETED APPLICATION PACKET ALONG WITH  
A TRANSCRIPT AND LETTERS OF RECOMMENDATION TO:

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North Carolina A&T State University  
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