WHAT IS QUEST?

OVERVIEW
The Bagley College of Engineering Summer Research Program, QUEST, is part of a university-wide initiative to provide opportunities for gifted and talented juniors in high school to spend 3-weeks working in world-class laboratories on the campus of Mississippi State University. The program will expose students to the excitement and opportunities of a research career. The Bagley College of Engineering summer research program offers an innovative research opportunity designed to allow scholars a chance to increase their knowledge and understanding of engineering by participating in research projects in the Bagley College of Engineering. Upon the participants’ completion of the program, scholars will have a broader understanding of research and will be motivated to think about graduate school and a career in engineering. Special enrichment seminars will also be offered to provide participants with the knowledge and skills needed to be successful students and researchers and expose them to the various engineering disciplines.

WHO IS ELIGIBLE
QUEST is open to high achieving, rising high school seniors (students who have completed their junior year of high school) who are interested in pursuing an education and career in engineering. The program is very competitive. Students should also have taken either the ACT or the SAT and have received their scores at the time of application. QUEST is for the serious student and students should think of this as a research opportunity and not as a summer camp.

RESEARCH
The research component of the Bagley College of Engineering summer research program places the student with a faculty mentor and a student mentor. The student works closely with these individuals during the research exploration. Students will use a variety of research techniques to carry out their research projects, which include field experience, computer research, and hands-on-work in the state of the art laboratories on campus. The first few days of the program is geared towards providing students with a wide array of research opportunities (via tours of labs and meetings with different faculty members) and the remaining time students will be involved in their specified research area.

HOUSING AND RECREATION
Participants and residential staff will live in university’s housing on campus. All rooms contain two beds, two desks, two chairs, two closets or wardrobes, a sink, two towel racks, and a MicroFridge-combination, refrigerator/freezer and microwave. (Sink not available in suite halls.) Participants will be mailed more detailed information on other items they may want to bring during their stay. Participants will also be given a meal card for use in University Dining Facilities. Students will be able to check in to their rooms on Sunday, July 5, 2015.

LENGTH OF PROGRAM
This program begins July 6, 2015 and ends July 24, 2015, with room check-in on July 5, 2015. It is a challenging 3-week research experience in engineering for high school juniors. Each student will attend research seminars, which focus on the fundamentals of performing quality research and each student is required to perform a minimum of 20 hours of lab work/research/week throughout the duration of the program.

COST
To help defray the costs of QUEST, each person selected will be required to pay a $1500 fee for the three week program. DO NOT send any money with this application. Students selected will be notified when to send the fee.

SELECTED RESEARCH PROGRAMS

AEROSPACE ENGINEERING
BIOLOGICAL ENGINEERING
CHEMICAL ENGINEERING
CIVIL ENGINEERING
COMPUTER ENGINEERING
COMPUTER SCIENCE
ELECTRICAL ENGINEERING
ENVIRONMENTAL ENGINEERING
INDUSTRIAL ENGINEERING
MECHANICAL ENGINEERING
SOFTWARE ENGINEERING
QUEST SUMMER RESEARCH PROGRAM 2015

APPLICATION

PART I: PERSONAL BACKGROUND INFORMATION

STUDENT NAME:___________________________________________________________

ADDRESS:_______________________________________________________________________________________________

PHONE:____________________________________   STUDENT EMAIL:______________________________________

PARENT/GUARDIAN NAME:_______________________________________________________________________________

PARENT/GUARDIAN EMAIL:_______________________________________________________________________________

GENDER:  _ __MALE      ___FEMALE       ARE YOU A U.S. CITIZEN?     ___YES      ___NO

T-SHIRT SIZE:  ___ S      ___M      ___L      ___XL      ___XXL

PART II: ACADEMIC INFORMATION

HIGH SCHOOL ATTENDED:__________________________________________________________________________________

HIGH SCHOOL ADDRESS:___________________________________________________________________________________

HIGH SCHOOL CLASS RANKING:___________   HIGH SCHOOL GPA:__________________________________________________

ACT:   _______ COMPOSITE   _______MATH           _______ENGLISH

SAT:     _______MATH     _______VERBAL

In the list below, indicate the grades you have earned in the courses you have completed in high school. If you are currently enrolled in a course and have not yet received a grade, please indicated with IP (in program) or if the course is not offered at your high school, please indicate with NO (not offered).

____  ALBEGRA II       ____  CALCULUS

____  TRIGONOMETRY      ____  AP CALCULUS

____  GEOMETRY          ____  PHYSICS

____  PRE-CALCULUS      ____  AP PHYSICS

____  AP CHEMISTRY      ____  CHEMISTRY
1. Briefly state the reasons why you would like to participate in the Summer Research Program.

2. List Science/Math Activities and Offices Held (Clubs, Science Fairs, etc.):

3. List Extra Curricular Activities (Sports, Clubs, etc.):

4. List Volunteer Activities (Church, Community Service, Etc.):

5. List and Part-Time Employment (Years, Supervisor’s Name, Responsibility):
6. Please list two references who know your character and your scholastic ability (Name, Address, Phone, and e-mail). At least one reference should be a current or former math or science teacher. Please have each reference submit a letter of recommendation in a sealed envelope, signed across the seal and then enclose these sealed envelopes with your application. Each reference letter should address the following issues at minimum: 1) moral character, 2) maturity, 3) academic ability, 4) ability to work on teams, 5) ability to get along with others, and 6) ability to complete work on time.

**PART III: SHORT ESSAY**

1. In the space below, please submit why you would like to participate in this program.
2. What skills/abilities do you not have that might hinder your success in this program?

3. What is your area of interest in research? Why? (We do not guarantee you will be able to work in the specified area.)

4. Why are you interested in pursuing engineering in college?

5. I would like to work in one of the following departments (Place a 1 in the blank for your first choice, 2 for your second, etc.):
   - [ ] Aerospace Engineering
   - [ ] Biological Engineering
   - [ ] Chemical Engineering
   - [ ] Civil Engineering
   - [ ] Computer Engineering
   - [ ] Computer Science
   - [ ] Electrical Engineering
   - [ ] Environmental Engineering
   - [ ] Industrial Engineering
   - [ ] Mechanical Engineering
   - [ ] Software Engineering

NOTE: We will do our best to match your interest with our research projects. However, we do not guarantee you will be in a specific department or research program.
6. How would you define problem solving?

7. What are your career goals, and how will the Bagley College of Engineering Summer Research Program help you achieve them?
CHECKLIST

_____ Completed Application
_____ Letters of Recommendation
_____ High School Transcript

Please return this form before May 15 to:

ATTN: Laura Bryan
Bagley College of Engineering
Box 9544
Mississippi State, MS 39762

If you have any questions, please feel free to contact Ms. Laura Bryan at
662-325-2267 or Fax: 662-325-9094
E-mail: lbryan@bagley.msstate.edu

Mississippi State University

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