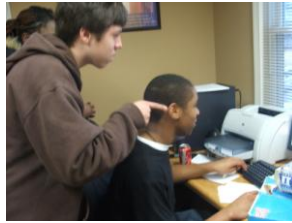


M.A.S.T.E.R.

October 28, 2009 – April 7, 2010

A six month academic program for African American, Latino, and American Indian high school students interested in science, mathematics and engineering.



The Program

Simply put, engineering is solving problems using math and science. Engineers make artificial organs and limbs; create robots to carry out tasks too dangerous for humans; devise ways to treat waste to keep it from polluting the environment; produce materials that are flame resistant; and improve the design of tools and toys we use every day. It is impossible to go through a single day without using something an engineer has helped to create.

The Math and Science Technology Education Resource (M.A.S.T.E.R.) program is a collaboration between Worcester Polytechnic Institute (WPI) and the Worcester Higher Education Resource Center (HERC). It aims to strengthen minority high school students' skills and abilities in the fields of math and science. The program will help African American, Latino, and American Indian urban high school students explore the engineering, math and science fields of study to increase their likelihood of pursuing further education in these areas after high school graduation.

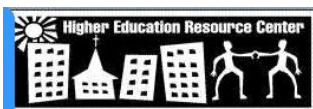
During the program, classroom style sessions will be conducted on specific subjects, offered by different WPI departments. The participants will learn the importance and relevance of these subjects in our daily lives (i.e. chemistry, calculus, trigonometry, algebra, etc). Also, a number of SAT preparatory sessions will be available through HERC in order to help the participants prepare for the SATs and achieve competitive scores. Moreover, participants in the 11th and 12th grades will participate in a module designed to help them identify appropriate colleges and offer various college preparatory support.

In addition to the various academic related sessions, participants will work with the guidance of WPI students to complete a hands-on project. Prior projects included the implementation of a Java computer program and research regarding DNA, filter design and bridge structure.

M.A.S.T.E.R. is not only work! WPI students will interact with the participants to help strengthen academic weakness, develop study skills, organize homework assignments and develop test taking strategies. The participants will also be able to develop relationships with WPI students and get a chance to discuss their worries, concerns and expectations regarding the college experience. Participants will be divided into teams to compete around a project based assignment, thus turning the hands-on-project into a fun activity!

A schedule of activities will be provided to successful applicants. We think you will find the M.A.S.T.E.R. program to be a once-in-a-lifetime experience!

Worcester Polytechnic Institute
Worcester Higher Education Resource Center



For information

Write

WPI Office of Diversity Programs
100 Institute Road
Worcester, MA 01609

Higher Education Resource Center
1189 Main Street
Worcester, MA 01603

Phone

508-831-5796 (ODP)
508-756-0900 (HERC)

Email

diversity@wpi.edu
worcher@gis.net

Browse

www.wpi.edu/Admin/Diversity
www.worcesterherc.org

Who Should Apply?

M.A.S.T.E.R. is designed for African American, Latino and American Indian high school students. Applicants should have an interest in and be highly motivated to learn about careers in math, science and engineering.

Not sure if you are interested in engineering? Take our quiz to find out your "Engineering Quotient".

- **I like to solve problems and be creative**
Engineering is all about using science and math to solve problems. Engineers use their skills to make things work better, faster, and less expensively.
- **I want to make the world a better place to live**
Engineers design wheelchairs, cell phones, infant monitors, artificial organs, computer software and all kinds of innovations that improve our lives.
- **I do well in math and science classes**
If you enjoy science and math, you most likely have an aptitude for engineering.
- **I like to work as part of a team**
Engineers typically work with other engineers or other experts to solve problems in a group setting. Most projects are built around a team of people who work together to find the best solution.
- **I want an education that will let me keep my options open**
With an engineering background, you can go into management, teaching, research, consulting, business, industry, government, or marketing. As an example, the medical school admission rate for students with engineering degrees is in excess of 80%, compared with a national average of 48%.
- **I want to combine my interest in science with my interests in music or history**
A strong background in science can be combined with interests in other fields, such as humanities and the arts, to make you even more successful in the engineering world.

To Apply

- Complete the application on the following page.
- Submit a copy of your school transcript.
- Have a math or science teacher complete the half-page recommendation form on the following page.
- Standardized test scores (PSAT, SATs, ACTs) are not required, but may be submitted.

Upon request, you can receive additional application forms.

Complete applications must be received by **October 2, 2009**. The program has limited slots for participants and is highly selective.

The Worcester Public Schools is not responsible for, or connected with, any aspect of this program and participation in this program is the sole decision and responsibility of the parent/guardian.



M.A.S.T.E.R. Application Form

Please send the application form, a copy of your transcripts, and the teacher recommendation form together to: WPI Diversity Office, 100 Institute Road, Worcester, MA 01609. Applications must be received by **October 2, 2009**.

STUDENT NAME: _____

First

Middle

Last

HOME ADDRESS: _____

Number

Street

City

Zip Code

TELEPHONE: () _____ DATE OF BIRTH: / / _____

EMAIL: _____ GRADE ENTERING THIS FALL: _____

SCHOOL: _____

Name

City

How did you hear about this program? _____

RACE: Please select all that apply

- Hispanic/Latino Black/African American American Indian/Alaskan Native
 Other _____

GENDER:

- Female Male

Additional Questions

What interests you about this program?

Please list your academic achievements and extracurricular activities you were involved with in the past:

What are your more specific interests in math and science? (eg. Computer Science, Mechanical Engineering, Robotics, Electrical Engineering, Interactive Game and Media Development, etc)

If I am accepted into this program I hope to:

Teacher Recommendation Form

(Only a teacher may complete this form)

Please return this form to the student in an enclosed envelope.

STUDENT'S NAME: _____

TEACHER'S NAME: _____

How do you know this student? _____

Please indicate with a checkmark the characteristics that you have observed regarding this student:

- Manages routine tasks Is self-directed Displays perseverance Reads at grade level or above
- Has curiosity about their environment Is observant Originality of ideas
- Has displayed leadership abilities Good attention span Ability to reason out problems
- Ability to grasp ideas at a good pace Good vocabulary
- Has displayed good or better academic performance in:
 - Science
 - Math
 - Language arts
- Has displayed ability in:
 - Art
 - Dramatic arts
 - Physical coordination
 - Music
 - Voice

Please share any additional comments regarding this student on the back side of this form

Signature: _____ Date: _____

Teacher's Additional Comments:

This student needs to continue improving his abilities in the following academic area(s):
