



Decatur City Schools Engineering Academy Classes

Austin High School
Decatur High School

DCS Engineering Academy Goals

- Challenging four year curriculum in science and math
- Flexible scheduling to accommodate AP and IB schedules
- Participation of engineers from the surrounding technical community as guest lecturers and mentors
- Vital hands-on team approach to the engineering design process through class projects as well as the DCS robotics program
- Promote time management and organizational skills
- Provide opportunities for technical as well as communicative skills application

Admission to the Academy

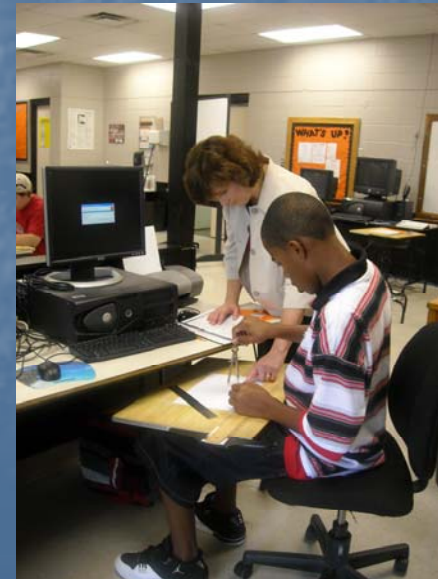
- The academy is open to all incoming freshmen who have successfully completed Algebra I in the 8th grade and who are enrolled in Geometry and Biology in the 9th grade
- The Level I Engineering Design and Drawing course is open to all students (sophomore-senior) who meet the Geometry and Biology co-requisite

Level I- Engineering Design and Drawing

(freshmen-senior level students)

- Students learn the engineering design process through multiple short term team design projects
- Students study drawing and visualization techniques using 2-D and 3-D programs including but not limited to Solid Edge, Pro-Desk Top, Inventor, and Autodesk Revit.
- Students participate in the DCS robotics program (BEST and FIRST)

Co-requisites: Geometry and Biology



Level II: Instrumentation and Analysis

(sophomore-senior level students)

- Three 12-week rotations in electrical, chemical, and mechanical engineering disciplines
- Lab studies in National Instruments LabView curricula (Infinity Project), NXT Lego robotics, West Point Bridge Designer Software, model rocketry
- Local engineers will serve as lecturers, consultants, and mentors
- Continued participation in DCS robotics program
- Field trips to Auburn, UAB, and UAH



Decatur Austin Robotic Coalition (DARC)

- Separately, Decatur High School and Austin High School have participated in BEST Robotics for 6 years. Austin High School competed in FIRST Robotics for 2 years.
- The two schools have combined the robotics programs for 2008-2009
- Extracurricular
- 133 students
- All Level I and Level II Engineering Academy students are involved



Level III Engineering Research I

(junior and senior level students) Available 2009-2010

- Teacher-guided research leading to the solution of a student-selected engineering problem
- Students will be provided the opportunity to work on-site with local engineers
- Students will be provided the opportunity to apply for summer internships in local engineering facilities

Level IV Engineering Research II

(senior level students) Available 2010-2011

- Student engineering project will be a joint effort between the secondary high school senior, graduate level students at UAH and local professional engineers.
- Students will be allowed time away from the high school day to attend UAH to assist with UAH engineering research projects
- Students will be given the opportunity to apply for summer internships in local engineering facilities