CC – Innovation by Design – Jan 2015

This may not look like a high school classroom … but that is by design, as these students are challenged with a different approach to learning.

**Footage of students using underwater robot **

Dr. Sandra Clement, Principal at Moody HS
(1:05) Our CITGO Innovation Academy is fantastic – what it does is it provides students not only from our neighborhood but any students that transfer in an experience and instructional program that's focused on math, science and technology – and the students who go through the program actually get to study what it's like to be an engineer – to forensic scientist – anything they want to be.

Mario Bayarena, Robotics Instructor
(28:20) It's very hard to learn out of a textbook – almost everybody I know, inc. myself, are hands-on learners – give me something, let's build it – then we can read about it … we have to make mistakes so that we can fix them.

Mario Bayarena, Instructor
(27:19) … what we're working on now is that everybody gets to build a robot and it's to their design – built to their specifications …
(27:30) … there's even a student who wants to make his ROV come out of the water and fly – and we're not there yet, but who knows – the sky is the limit

footage of robot… student speaking to other kids about robot, discussion for class that we overheard / taped might be neat to insert here.

Alezabeth Cadena, Robotics Student
(20:10) There's a lot more than you think it would be about – you have to sauter everything; we actually are starting from scratch so you have to have to cut through everything and we're using all different kinds of materials

Jeremiah Vasquez, Robotics Student
(22:28) I love all the technical aspects that they teach that we can apply to real-world situations, such as capping an oil well – you name it, we can fix it, we'll take care of it

… and that seems to the be the motto in every class, including this one ~~– where students are learning 'principals of engineering' from their own designs. --~~ **Where students are expected to think and work like engineers.**

Juan Licon
(33:32) This is a little chassy right here – it runs off solar power – the solar power gets its electricity from light … this right here is the motor and this right back here is the fuel source …

Jason James, Engineering Instructor

(6:19) … they've been working on building their chassy and today is actually the last day of testing – where we put their cars on a charge; they have lights for the solar arrays and fuel cells … and we actually put them head-to-head in a competition with each other, looking at the distance traveled, speed and also weight.

Footage of chassy race

Juan Licon

(3:34) I'm learning a little more about engineering; how stuff works, how you can make electricity from light … and how to make things smaller, lighter and better.

… knowledge that can pay off in the long run … as some local business partners, like those at CITGO Refinery, have recognized … and rewarded with contributions that make this program possible.

Larry Elizondo, CITGO Refinery

(4:30) … as you know this community is very much part of the industrial corridor – it has a lot of refineries – has a lot of chemical plants – a lot of manufacturing plants that require a certain set of skills … and if you don't have any of these, it's going to be hard to find employment.

(4:58) … so we see the big picture – we know that if we invest in the children, we invest in the programs, we partner with CCISD to help their innovative curriculum.

Dr. Sandra Clement, Principal at Moody HS

(3:10) … (CUT) … it couldn't reach the heights that it did without the support of CITGO … so having us come together and renaming the program into the CITGO Innovation Academy is a source of pride for us … and more than that, it's also a reflection of the work that we've done together.

(3:00) … everything we need as far as instruction for our students, they recognize as workforce development for them in the future.

Alezabeth Cadena, Robotics Student

(20:30) … before I was in this class I wasn't really sure what I wanted to go into … and now I think that this is gonna be a profession that I want to enter.

Jeremiah Vasquez, Robotics Student

(22:44) ~~For a future career~~ I want to do something that has to do with the ocean such as oceanographic engineer, maybe building a platform … I just want to have a job that I love.

Larry Elizondo, CITGO Refinery

(3:25) We believe in education, we believe in investing in the children of this community – we see that in return tenfold; every day we see it …

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