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## Two new high school magnet programs debut this month

BY REBECA PICCARDO

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At the two-week summer bridge program, incoming BioTech students get a crash course on lab skills and procedures, and get to know each other in the meantime. REBECA PICCARDO/SOUTH FLORIDA NEWS SERVICE.

Brian Duffie, 14, has loved science since his Boy Scout days.

"I was fascinated by every aspect of nature," he said. "We learned about plants and animals — how ants interact with trees."

Now, as an up and coming freshman, Duffie had to decide what high school would best suit his interest and chose to be part of the first generation at BioTech at Richmond Heights 9-12 High School — one of the two new magnet programs in the county.

The School Board of Miami-Dade received a \$10.7 million Magnet Schools Assistance Program grant to make STEM education across the county more rigorous and relevant for students.

This federal grant, which will be awarded over the course of three years, is funding the "STEM: Increasing Rigor and Relevance" project that created the two high school magnet programs that will open their doors to incoming freshmen this month.

On the south end of the county, students at BioTech will learn and conduct research for both the Zoology and Botany tracks in the freshman and sophomore years.

Then, as juniors and seniors, they will specialize their interest in one field to design and develop their own research project.

"They want to get the kids published in peer review journals," said Brian's mother, Joy-Anna Duffie, 55. "I was excited from day one — this whole thing looks amazing."

Although the school hasn't officially opened its doors, Assistant Principal Daniel Mateo said researchers across the country have already contacted BioTech, asking for help collecting data for research projects.

"The whole program is designed for the kids to be out doing authentic research," said Mateo. "We don't want a whole lot of tradition."

While following the standard core curriculum, each subject would be taught under the theme of "Conservation Biology," and all teaching staff members are required to have research experience.

BioTech established educational and research partnerships with Zoo Miami and Fairchild Tropical Botanic Garden.

Built into their schedule, students will have a three-hour research class every other day, when Fairchild and Zoo Miami staff will come in.

"BioTech is right smack in the middle of all these ecological systems," said Principal Kristal Hickmon.

With the MSAP grant and district support, BioTech is building a facility at Zoo Miami, said Susan O'Connor, the STIRR project coordinator. When the facility is completed in 2015, the plan is to have students alternate days between BioTech and the Zoo.

The idea for BioTech came together due to the success of the zoology magnet program at Richmond Heights Middle School. With no formal followup program at high school level, there was a need for a similar program, Hickmon said.

With 150 incoming freshmen enrolled for fall, Mateo said BioTech will be accepting applications for the following school year starting Oct. 1 and will hold recruitment events at local schools in upcoming months.

"As a parent, it really interested me," said Duffie. "I have older kids in college with need of field [research] experience."

On the North side of the county, iTech Academy at the Thomas A. Edison Educational Center will be the district's first advanced technology magnet high school.

With about 90 applicants and a cap of 120 to 150 students, Principal Sean Gallagan and his staff are still reviewing and accepting applications until classes begin in August.

He said the whole atmosphere of the school is meant to place students in the business world mindset.

Breaking out of the bell schedule mold, which reminds Gallagan of factory workers, he said that having students dress in business casual attire day to day sets a higher bar and keeps the end goal in mind – high-wage careers in business and information technology.

"We won't have class, we'll have sessions; we won't have a schedule, we'll have an agenda," said Gallagan. "Like a start-up company, we are a start-up school."

Aside from core classes, students will choose one of three academies – Enterprise Resource Planning, Geospatial Information Systems and iCode.

ERP focuses on business and entrepreneurship, GIS on technical computer analysis to gather data and identify trends and iCode on managing various software platforms, like Microsoft and Java.

Through project-based learning, students will be doing real-world consulting in Miami, and the technology and business practices taught in each academy will provide certificates at university-level credit, Gallagan said.

Both programs, although different in focus, aim to be technological pioneers in education, going paperless, handing out individual HP tablets to each student and pushing forward project-based learning.

"We have more technology in the building than I'll ever know what to do with," Gallagan said.

As both programs look to growing in the future, iTech planning to hold 1,000 students and BioTech 800, program leaders look to train new generations in STEM while making it applicable to reinvest in the local community.

"STEM education is so important," said Hickmon. "It makes it relevant; it makes it real to [the kids]."



