

## **Plan for NJ high schoolers calls for more math, science**

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Tony Kurdzuk/The Star-Ledger Newark Arts High School math teacher Lawrence Ramsey (left) and Princeton High School Science Supervisor Cherry Sprague preparing an experiment.

A high-powered report, two years in the making and being released today, calls for dramatic changes to what New Jersey's public high schools must teach students.

In their report, Gov. Jon Corzine and a coalition of public and business leaders are proposing different course requirements and testing, with a sharp focus on math and science.

The details will come at a special joint meeting of the state's Board of Education and Council on Higher Education. A draft of the plan, obtained last week by The Star-Ledger, indicates students would need to take classes in chemistry, algebra, geometry and even a half-year of economics in order to graduate. In most cases, there would be new state tests to match.

In addition, there are recommendations for districts to reform their high schools and be more attentive to student needs. There also is a push to align kindergarten-through-12th-grade programs with demands of higher education, aiming to reduce the high remedial rates for incoming students at colleges.

"The challenges ahead for students of the 21st century are great," read the executive summary of the draft. "Only by seamlessly aligning a system that focuses on preparing them for lifelong learning will we ensure that they succeed. Our state's future depends on how capably we partner to make this happen."

Should they be adopted by the state school board and, if necessary, the Legislature, the proposals ultimately would affect each of the 400,000 students attending the state's approximately 350 public high schools in a given year.

Like similar efforts taking place in at least two dozen other states, the report is the end-product of two years of forums and meetings led by the broad-based coalition. In addition to Corzine, it includes leaders from Prudential Financial, Montclair State University, the New Jersey Education Association and the state School Boards Association.

Not all of the proposals are new. State officials already announced broad plans to remake course requirements and launch end-of-course tests that go along with them. A new biology test will be administered for the first time next month to those taking the class now.

Still, the latest proposal -- titled "NJ STEPS" -- is expected to outline the specific course work to be demanded, and how it would be phased in over the next eight years.

For instance, next year's ninth-graders would be the first required to pass the state's new biology test, according to the draft. A controversial requirement that all students pass a state test in Algebra II wouldn't affect students until the Class of 2016 begins high school.

The state's broad graduation requirements of four years of language arts and three years each of math and science would not change.

"It won't be adding courses, but it does define what they will need to be," said Jane Oates, a member of the project's steering committee and director of the state's Commission on Higher Education.

"It's what colleges want. We want the high school diploma to mean something: that these kids are work-ready or college-ready."

Still, the discussion generated by today's presentation at William Paterson University in Wayne is sure to be lengthy, and the report itself acknowledges the many hurdles.

For instance, fewer than half of New Jersey's high schools now require either chemistry or Algebra II, and the report recognizes the difficulties in finding the necessary math and science teachers at a time when both are in short supply.

And to create all those chemistry labs or meet the other demands, the draft made no recommendations for additional state funding, instead suggesting "reallocation" of resources.

It said specific programs for those falling short of the requirements will need to be developed, with attention to reforming middle schools as well. Students in hundreds of high schools -- especially in urban districts -- have a difficult enough time passing the state's current requirements.

"The core belief that all students can learn is critical to the success of this plan," the draft's introduction read. "For some students, however, even the early phases of the NJ

STEPS implementation will be difficult. The extra supports required by these students ... must be front and center of any efforts to raise expectations."

There is sure to be debate over some of the specific requirements and even the broader approach of demanding all students meet the same requirements.

Among the most critical have been those from the state's vocational and technical schools, whose leaders have protested the proposal that all students must pass a test in Algebra II, which they said is unnecessary for those following trade paths.

"Yes, they need strong arithmetic skills, but we don't think it is realistic to assume you can imbed quadratic equations into a trade program," said Judy Savage, director of the vocational schools association.

"You can't just load it all on," she said of other requirements in arts and language that students also would face. "Everyone has evidence that their area is most important, but it becomes difficult to think you can have every kid do everything."

Others involved in the development of the project would not discuss its details until today's event, but they said it is a project that could have a lasting impact.

"We've known for ages about the high schools that work, so why not take some of that and say it's the way to go for New Jersey?" said Ronald Butcher, president of the state Board of Education. "There may be some questions about the details, but that should work itself out."