

Title: Physics Syllabi Around the World

Date: May 27, 2006 02:45 PM

URL: <http://pirsa.org/06050021>

Abstract: <kw> Modern Physics, Syllabus, scientifically literate, populist philosophy, qualifier societies, streaming, AP courses, A-levels </kw>

Physics Syllabi Around the World

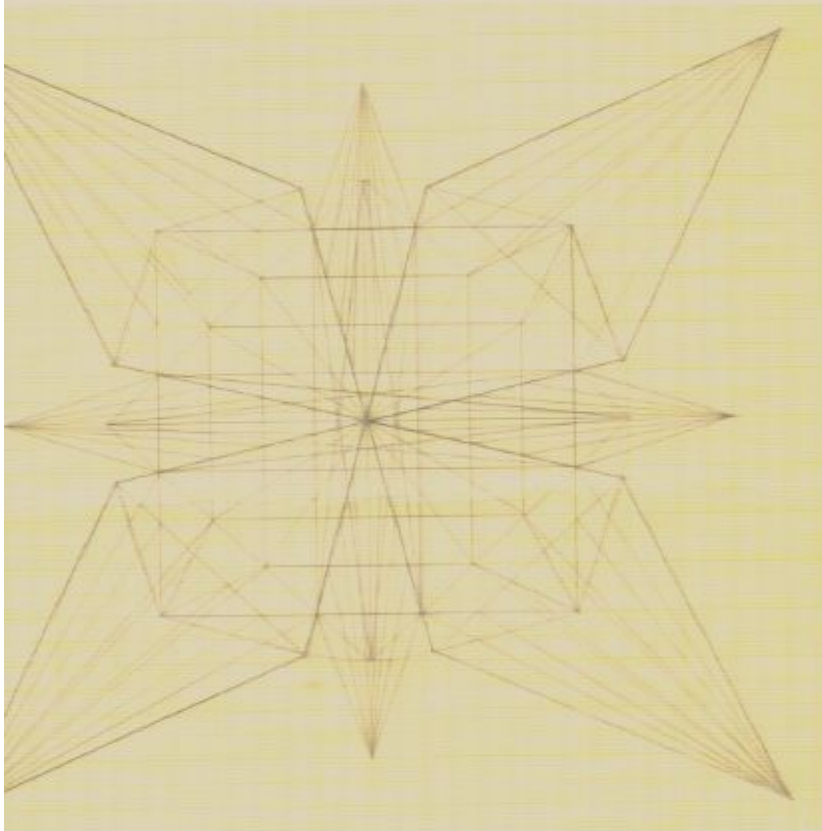


John Caranci

Physics Syllabi Around the World



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How is modern physics treated in high schools around the world?

There seems to be a relation to the national/cultural philosophy of education.

General Philosophies

- Populist philosophy – United States, U.K., Canada, Australia, New Zealand – science for every one – a little bit of everything – scientifically literate citizens
- Qualifier societies – high school is to separate the best students from the less able – society is reflected in its best is view – but may be linked to post secondary places
- Streaming Specialties – Classics, Moderns, Science and Mathematics

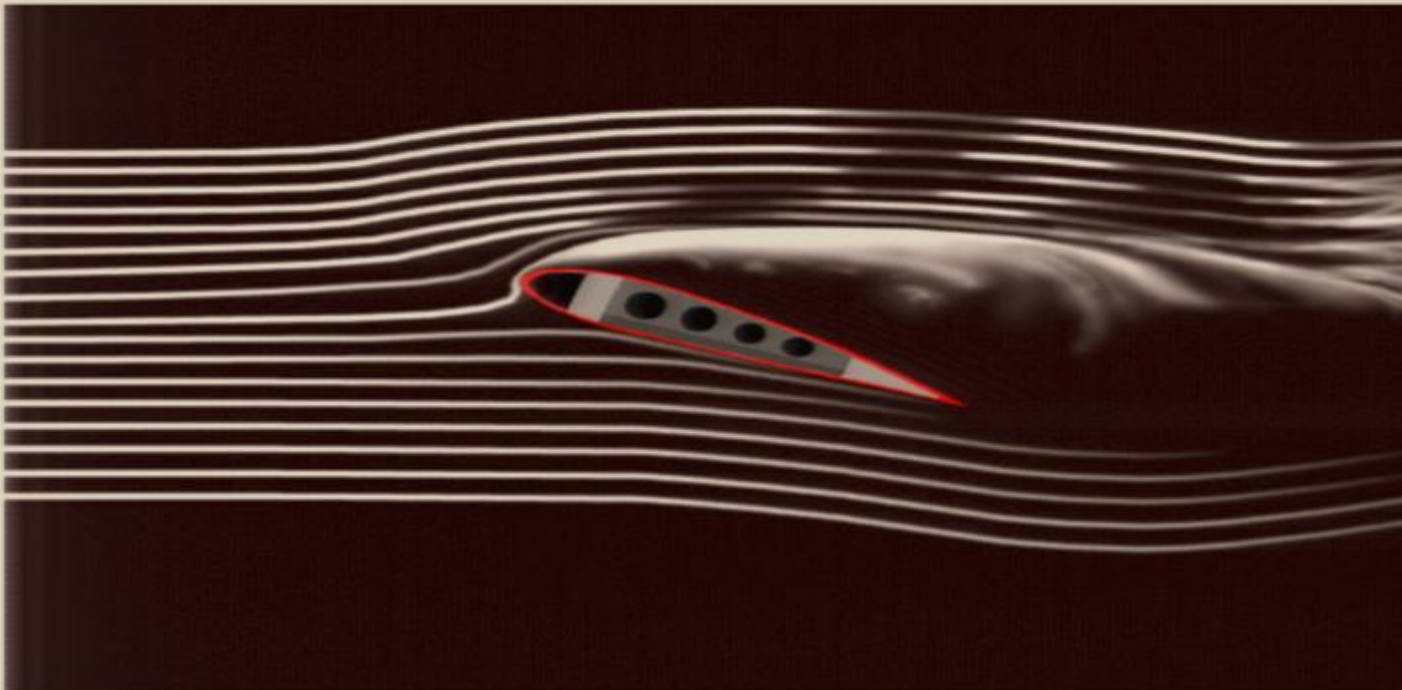


High School – Physics



- Grades 7 to 12 – 5 physics classes
- Grades 10 to 12 – 3 years of physics
- Only grade twelve physics classes
- Ontario – Grade 11 and 12

Ontario is one of the few places to
make curriculum government policy up
to senior level – therefore the weight of
law



The Curricula

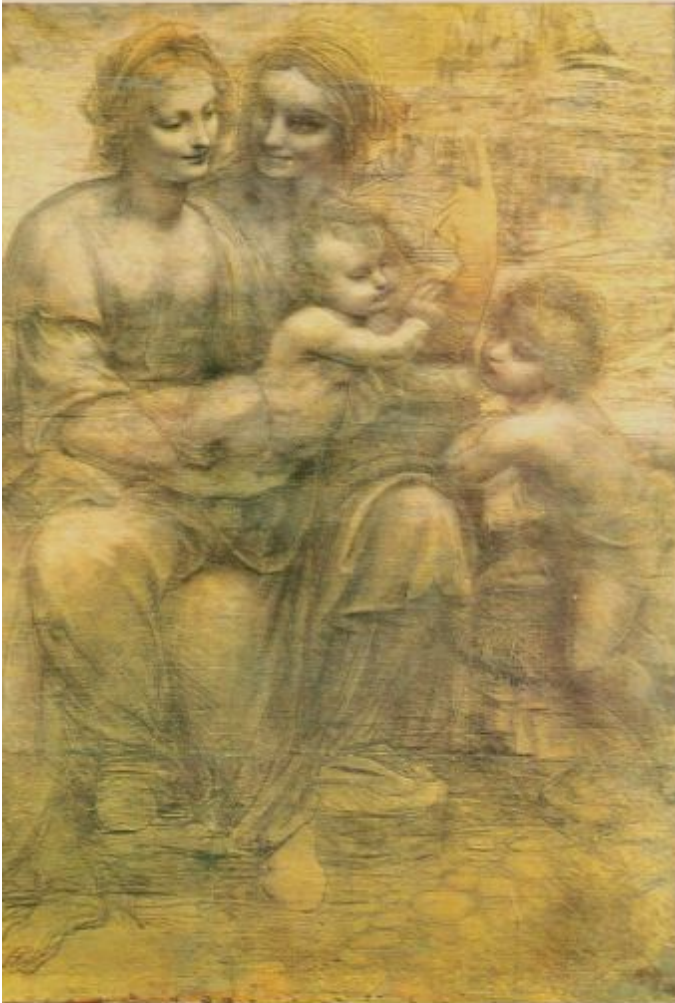
- Kinematics and the dynamics are the mainstay of all physics curriculum syllabi
- Relativity and quantum mechanics are treated in historical fashion mostly-problem or activity based is rare
- Quarks, non-linear, M-theory, super gravity and strings are very rarely given more than a cursory glance



Are we due for a change?



Interesting Points



- In the United States, there has been an increase to one in three students graduating from high school have taken a physics course.
- Established syllabi once created sometimes appear to be carved in stone, or is event based (through perceived need, political expediency, external forces) - revision cycles like the one in Ontario are used in a few places.
- Some jurisdictions have adopted external syllabus (AP, IB, A-Levels)
- Some jurisdictions have survey courses in middle school only – mechanics in High School