



Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

Quantitative Reasoning (Applied Mathematics)

This document reflects changes approved by the Indiana State Board of Education on January 22, 2021. This document was published on September 17, 2021.

In November 2011, the State Board of Education passed graduation requirements that affect incoming freshmen beginning in 2012-2013, including requirements for quantitative reasoning (applied mathematics) courses.

- For the Core 40, Academic Honors (AHD), and Technical Honors (THD) diplomas, students must take a mathematics course or a quantitative reasoning (applied mathematics) course each year they are enrolled in high school. 511 IAC 6-7.1-6 (c) (4)
- For the General Diploma, students must earn two credits in a mathematics course or a quantitative reasoning (applied mathematics) course during their junior or senior year. 511 IAC 6-7.1-4 (c) (4)
- A quantitative reasoning (applied mathematics) course is a high school course that "advances a student's ability to apply mathematics in real world situations and contexts" and that "deepens a student's understanding of high school mathematics standards."
- The Indiana Department of Education will provide an annual review to determine the high school courses that meet these criteria.
- The tables below provide a list of current courses that have been determined to meet the criteria for quantitative reasoning (applied mathematics) courses

Advanced Placement

Title/Description	Course Number
AP Biology	3020
AP Chemistry	3060
AP Computer Science A	4570
AP Computer Science Principles	4568
AP Environmental Science	3012
AP Macroeconomics	1564



Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

AP Microeconomics	1566
AP Physics 1: Algebra-Based	3080
AP Physics 2: Algebra-Based	3081
AP Physics C	3088

Cambridge International

Title/Description	Course Number
CI A Level Biology	8104
CI AS Level Biology	8106
CI A Level Chemistry	8112
CI AS Level Chemistry	8114
CI A Level Computer Science	8116
CI AS Level Computer Science	8118
CI A Level Design and Technology	8120
CI AS Level Design and Technology	8122
CI A Level Economics	8124
CI AS Level Economics	8126



Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

CTE - Agriculture

Title/Description	Course Number
Advanced Life Sciences, Animals	5070
Advanced Life Sciences, Foods	5072
Advanced Life Science, Plants and Soils	5074
Agribusiness Management	5002
Landscape Management I	5136
Landscape Management II	5137

CTE - Business, Marketing, Information, and Entrepreneurship

Title/Description	Course Number
Advanced Accounting	4522
Banking and Investment Capstone	5258
Business Math	4512
Computer Science I	4801
Computer Science II	5236
Computer Science III: Cybersecurity Capstone	5253
Computer Science III: Databases	5250
Computer Science III: Software Development Capstone	5249



Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

Computer Science III: Informatics for 2020-2021	5251
Global Economics	4558
Personal Financial Responsibility	4540

CTE - Engineering and Technology

Title/Description	Course Number
Aerospace Engineering	5518
Civil Engineering and Architecture	5650
Computer Integrated Manufacturing	5534
Digital Electronics	5538
Engineering Design and Development	5698
Principles of Engineering	5644
Robotic Design and Innovation	4728

CTE - Family and Consumer Sciences

Title/Description	Course Number
Biochemistry of Food	5344
Consumer Economics	5334
Personal Financial Responsibility	4540



Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

CTE - Trade and Industry

Title/Description	Course Number
Manufacturing II	5606
Advanced Manufacturing Design II	5652
Aviation Maintenance II	5522
Construction Technology: Electrical II	4832
Construction Technology: HVAC II	5498
Construction Trades II	5578
Diesel Services II	5624
Electronics and Computer Technology II	5694
Industrial Automation and Robotics	5612
Industrial Technical Maintenance II	5688
Mechanical Drafting and Design II	4838
Precision Machining I	5782
Precision Machining II	5784

International Baccalaureate

Title/Description	Course Number
IB Biology Higher Level	3032
IB Biology Standard Level	3034



Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

IB Chemistry Higher Level	3070
IB Chemistry Standard Level	3072
IB Computer Science Higher Level	4584
IB Computer Science Standard Level	4586
IB Economics Higher Level	1580
IB Economics Standard Level	1582
IB Physics Higher Level	3096
IB Physics Standard Level	3098

Science

Title/Description	Course Number
Chemistry I	3064
Chemistry II	3066
Integrated Chemistry-Physics	3108
Physics I	3084
Physics II	3086

Social Studies

Title/Description	Course Number
Economics	1514