



# Indiana Department of Education

Dr. Katie Jenner, Secretary of Education

## Indiana High School Quantitative Reasoning (QR) Courses for Core 40 Curriculum Model

As outlined in Indiana Administrative Code (IAC) (511 IAC 6-7.1-6), students must complete a mathematics or quantitative reasoning (QR) course each year of high school enrollment to achieve the Core 40 Diploma, Academic Honors Diploma, and Technical Honors Diploma. Students are also required to earn two credits in one of these courses during their junior or senior year.

In early 2025, the Indiana Department of Education (IDOE), in consultation with the Indiana Commission for Higher Education's Career and Technical Education (CTE) Team, updated this list to reflect removal of all Perkins courses and the addition of five CTE courses (see Change Log, below). The following QR courses are available to satisfy the credits requirements outlined in code and for use by students pursuing a Core 40 diploma (not the new Indiana diploma):

### Advanced Placement (AP)

- 1564 AP Macroeconomics
- 1566 AP Microeconomics
- 3012 AP Environmental Science
- 3020 AP Biology
- 3060 AP Chemistry
- 3080 AP Physics 1: Algebra-Based
- 3081 AP Physics 2: Algebra-Based
- 3088 AP Physics C
- 4568 AP Computer Science Principles
- 4570 AP Computer Science A

### International Baccalaureate (IB)

- 1580 IB Economics Higher Level
- 1582 IB Economics Standard Level
- 3032 IB Biology Higher Level
- 3070 IB Chemistry Higher Level
- 3072 IB Chemistry Standard Level
- 3096 IB Physics Higher Level
- 3098 IB Physics Standard Level
- 4584 IB Computer Science Higher Level
- 4586 IB Computer Science Standard Level

### Social Studies

- 1514 Economics
- 4558 Global Economics

### Science

- 3034 Biology Standard Level
- 3064 Chemistry I
- 3066 Chemistry II
- 3084 Physics
- 3086 Physics II
- 3108 Integrated Chemistry-Physics

### Cambridge International

- 8104 Cambridge Advanced A Level Biology
- 8106 Cambridge Advanced AS Level Biology
- 8112 Cambridge Advanced A Level Chemistry
- 8114 Cambridge Advanced AS Level Chemistry
- 8116 Cambridge Advanced A Level Computer Science
- 8118 Cambridge Advanced AS Level Computer Science
- 8120 Cambridge Advanced A Level Design and Technology
- 8122 Cambridge Advanced AS Level Design and Technology
- 8124 Cambridge Advanced A Level Economics
- 8126 Cambridge Advanced AS Level Economics

## **Business Management, Marketing, Finance, and Entrepreneurship**

- 4512 Business Math
- 4522 Advanced Accounting
- 5258 Finance and Investment
- 7265 Finance and Investment Capstone

## **Career and Technical Education**

### **Foundational**

- 4540 Personal Financial Responsibility
- 5334 Consumer Economics

### **Advanced Manufacturing**

- 4728 Robotic Design and Innovation
- 7100 Smart Manufacturing Systems
- 7103 Advanced Manufacturing Technology
- 7105 Precision Machining Fundamentals
- 7107 Advanced Precision Machining
- 7219 Precision Machining Capstone
- 7222 Smart Manufacturing Capstone
- 7224 Industrial Automation and Robotics Capstone
- 7260 Industrial Electrical Capstone
- 7261 Industrial Maintenance Capstone
- 5538 Digital Electronics
- 7197 BIM Architecture
- 7202 Manufacturing Principles and Design
- 7223 Mechanical Design Capstone
- 7361 Electronic Fundamentals
- 7362 Electronics and Computer Technology Capstone

### **Health & Human Services**

- 7167 Pharmacy Tech

### **Digital Technology**

- 7183 Principles of Computing
- 7184 Software Development
- 7185 Website and Database Development
- 7351 Topics in Computer Science
- 7352 Computer Science

## **Construction**

- 7119 Advanced Electrical
- 7242 Construction Trades Capstone
- 7244 HVAC Capstone
- 7263 Construction Trade Electrical Capstone
- 7297 Architecture, Engineering and Construction Capstone\*

## **Agriculture**

- 5070 Advanced Life Science, Animals
- 5072 Advanced Life Science, Foods
- 5074 Advanced Life Science, Plants and Soils
- 7112 Agriculture Structures Fabrication and Designs
- 7115 Landscape and Turf Management
- 7228 Agriculture Mechanization and Technology Capstone
- 7234 Landscape Management Capstone
- 7238 Agribusiness Capstone
- 7262 Agricultural Research Capstone

## **Engineering**

- 5518 Aerospace Engineering
- 5534 Computer Integrated Manufacturing
- 5538 Digital Electronics
- 5644 Principles of Engineering
- 5650 Civil Engineering and Architecture
- 5698 Engineering Design and Development

## **Energy and Natural Resources**

- 7200 Fundamentals of Electricity and Motors

## **Supply Chain & Transportation**

- 7210 Diesel Steering and Brakes
- 7211 Diesel Transmissions
- 7376 Advanced Aviation Maintenance
- 7221 Diesel Services Capstone
- 7385 Aviation Management Capstone

\*This course currently exists but the pathway is being phased out.

## Change Log

Contact the Indiana Commission for Higher Education's [Career and Technical Education \(CTE\) team](#) with any related questions.

Course Number	Course Title	Description of Update
4801	Computer Science I	CTE removed these courses as they are no longer in effect.
4832	Construction Technology: Electrical II	
4838	Mechanical Drafting and Design II	
5002	Agribusiness Management	
5136	Landscape Management I	
5137	Landscape Management II	
5236	Computer Science II	
5249	Computer Science III: Software Development Capstone	
5250	Computer Science III: Databases	
5251	Computer Science III: Informatics	
5253	Computer Science III: Cybersecurity Capstone	
5344	Biochemistry of Food	
5498	Construction Technology: HVAC II	
5522	Aviation Maintenance II	
5578	Construction Trades II	
5606	Manufacturing II	
5612	Industrial Automation and Robotics	
5624	Diesel Service Technology II	
5652	Architectural Drafting and Design II	

5688	Industrial Technical Maintenance II	
5694	Electronics and Computer Technology II	
5782	Precision Machining I	
5784	Precision Machining II	
7103	Advanced Manufacturing Technology	CTE added these courses from existing pathways to replace removed Perkins V courses.
7115	Landscape and Turf Management	
7210	Diesel Steering and Brakes	
7211	Diesel Transmissions	
7376	Advanced Aviation Maintenance	