Ohio's High School Math Pathways

STUDENT DECISION TREE - PART THREE

This decision tree shows alignment between majors/careers and high school math pathways courses. The information is broad and should be used for general guidance only, as alignments may vary by higher education institutions. Please check your local community colleges or four-year feeder schools and adjust the chart as necessary.

For their third unit of mathematics, students may wish to explore one of their new pathway courses such as Statistics & Probability, Data Science Foundations, or Computer Science/Discrete Math. However, if students decide to pursue a major within that pathway that requires Calculus, they should take Algebra 2 for their fourth unit of mathematics.

Quantitative Reasoning

Bachelor's or above (non-Calculus)
- Art History
- Communication Studies
- Criminal Justice (Applied degree)
- English
- History
- Human Resources Assistants*
- Intervention Specialist
- Journalism*
- Music
- PreK-5 Elementary Education
- Philosophy
- Public Relations/Advertising*
- Social/Human Services (AAB to BSW)*
- Social Work (AA to BSW)*
- Studio/Fine Arts
- Telecommunication*
- Theatre

Associate degree
- Applied Business (AAS)*
- Applied Marketing (AAB)*
- Computer Network Support Specialists*
- Dental Hygienists*
- Occupational Therapist Assistants*
- Web Developers*

Other Careers
- Agribusiness Systems
- Animal Systems
- Construction
- Design/Pre-Construction
- Environmental Service Systems
- Facility and Mobile Equipment
- Maintenance
- Food Products and Processing Systems
- Lodging
- Logistics Planning & Management Services
- Maintenance/Operations
- Natural Resource Systems Plant Systems
- Power, Structure and Technical Systems
- Recreation, Amusements, and Attractions
- Restaurants and Food/Beverage Services
- Sales and Service
- Transportation Operations
- Transportation Systems/ Infrastructure
- Travel & Tourism

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Statistics and Probability

Bachelor's or above (Calculus)
- 6-12 Education (math or science concentration)
- Business Intelligence
- Information Science*
- Statistics

Bachelor's or above (non-Calculus)
- 6-12 Education (non-math or science concentration)
- Anthropology
- Applied Business (AAB)*
- Applied Marketing (AAB)*
- Clinical/Medical Laboratory Science
- Criminal Justice (AA)
- Diagnostic Medical Sonographers*
- Dietetics
- Emergency Medical Technician (EMT)/Paramedic
- Environmental Science & Protection Tech*
- Exercise Science*
- Fire Science/EMT
- Geography
- Health Information
- Journalism*
- Health Sciences
- Management Analysts
- Market Research Analysts and Marketing Specialists*
- Nursing*
- Information Technology*
- Medical Laboratory
- Occupational Therapy*
- Paralegal and Legal Assistants
- Physical Therapy*
- Political Science
- Public Relations/Advertising*
- Radiologic Technologists*
- Respiratory Therapy Psychology (AA to BA)*
- Search Marketing Strategists*
- Social/Human Services (AAS) to BSW*
- Social Work (AA to BSW)*
- Sociology
- Telecommunication*

Associate degree
- Computer Network Support Specialists*
- Dental Hygienists*
- Human Resources Assistants*
- Medical and Clinical Laboratory Technicians*
- Nursing*
- Occupational Therapist Assistants*
- Physical Therapist Assistants*
- Recreation, Amusements, and Attractions
- Restaurants and Food/Beverage Services
- Sales and Service
- Transportation Operations
- Transportation Systems/Infrastructure
- Travel & Tourism

Data Science Foundations

Bachelor's or above (Calculus)
- Business Intelligence Analysts
- Data Science
- Information Science*
- Marketing
- Software Developers*

Bachelor's or above (non-Calculus)
- Any Arts or Humanities degree that requires Quantitative Reasoning
- Applied Business (AAB)*
- Applied Marketing (AAB)*
- Computer Programmers*
- Criminal Justice (Applied degree)
- Database Administrators
- Journalism*
- Market Research Analysts and Marketing Specialists*
- Management Analysts*
- Project Managers
- Public Relations/Advertising*
- Search Marketing Strategists*
- Software Developers*
- Software Quality Assurance
- Telecommunication*

Associate degree
- Any Arts or Humanities degree that requires Quantitative Reasoning
- Computer Network Support Specialists*
- Web Developers*

Certificate/Bootcamps
- Data Analytics
- Data Science

Computer Science/ Discrete Math

Bachelor's or above (Calculus)
- Computer Network Architects
- Computer Science (BS)
- Computer Systems Analysts
- Computer Systems Engineers/ Architects
- Engineers and Testers Software Developers
- Network and Computer Systems Architects

Bachelor's or above (non-Calculus)
- Computer and Information Systems Managers
- Computer Programmers*
- Computer Systems Analysts

- Database Administrators
- Software Applications
- Software Developers*
- Network and Computer Systems Administrators
- Information Security Analysts
- Software Quality Assurance
- Information Technology*
- Project Managers

Associate degree
- Computer Network Support Specialists*
- Computer Programmers*
- Database Administrators
- Information Technology*
- Network and Computer Project Managers

- Software Developers*
- Software Developers, Applications
- Systems Administrators
- Web Developers*

Certificate/Bootcamps
- Computer Technician
- Cyber Security Analysts
- Junior Programmer
- Network Administrator
- Network Analyst
- Network Engineer

Other Careers
- Computer User Support Specialist

Algebra 2/Pre-Calculus/Calculus STEM Path

Bachelor's or above (Calculus)
- 6-12 Education (math or science concentration)
- Accounting
- Actuarial
- Aerospace, Agricultural, Civil, and Mechanical Engineering
- Agribusiness (BS)
- Architecture
- Bioengineering/Biomedical Engineering,
- Biology
- Business
- Chemical/Environmental Chemistry
- Computer/Electrical Engineering

- Economics
- Electrical Engineering Technology*
- Engineering Science
- Engineering Technology (BS, BAS)
- Exercise Science*
- Finance
- Geology
- Industrial Engineering
- Mathematics
- Mechanical Engineering Technology*
- Physics
- Pre-Health Professional (Doctor, Vet, Pharmacy)

Associate degree
- Chemical Technicians
- Civil/Construction Engineering Technology
- Computer Network Support Specialists*
- Electro-Mechanical Technicians
- Electrical and Electronic Engineering Technicians
- Environmental Science & Protection Tech*
- Industrial Engineering Technicians
- Mechanical Engineering Technicians
- Radiologic Technologists*

* Appears in more than one pathway; requirements differ by institution; or a major may require multiple math courses. Check with your local feeder institution to see the math requirements.

Note: A College Credit Plus (CCP) Technical Math may help students switch from a non-Calculus path to a Calculus path in the same field.

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