#### <Skip to Calculus Flow Chart>

Please share any feedback on this guide (good, bad, or otherwise) with <u>Joseph Spivey</u>. Thanks for helping us improve this tool!

Use the clickable links for guidance on which first math course would be best for you. *It is not necessary to take a mathematics course your first semester.* Please note that this tool is best used in consultation with your advisor(s).

#### What kind of major or program are you thinking about?

- A business-related major (Finance, Accounting, Economics, or Business Economics)
- A STEM field (Chemistry, Biology, Physics, Psychology, Mathematics, Environmental Studies, Computer Science, Data Science, or pre-med)
- A major in the Humanities or in the Social Sciences

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# Choose one of the following business-related majors:

- Finance or Accounting
- Economics or Business Economics

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## **Finance or Accounting majors**

Take Math 140: Introductory Statistics, a required course for both Finance and Accounting.

You can take Math 140 before you take Accounting 211 or at the same time. Since Math 140 is a prerequisite for Finance 321, a required course for both majors, you must complete Math 140 before you take Finance 321.

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## **Economics or Business Economics majors**

There are two required courses: Math 181: Calculus 1 and a statistics course. Most students will choose Math 140: Introductory Statistics as their statistics course.

**Should you take Math 170 before Math 181?** Please consult the <u>calculus flow chart</u> to see whether it is a good idea for you to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

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# Choose one of these that interests you:

- Psychology or Biology
- Pre-health Career
- <u>Chemistry</u>
- Physics
- <u>Mathematics</u>
- <u>Computer Science</u>
- <u>Environmental Studies</u>
- Data Science

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## Chemistry

Both Math 181: Calculus 1 and Math 182: Calculus 2 are required.

**Should you take Math 170 before Math 181?** Please consult the <u>calculus flow chart</u> to see whether it is a good idea for you to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

If you have credit for Math 181: Calculus 1, begin with Math 182: Calculus 2.

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#### **Physics**

Math 181: Calculus 1 and Math 182: Calculus 2 are the first required mathematics courses for Physics majors.

**Should you take Math 170 before Math 181?** Please consult the <u>calculus flow chart</u> to see whether it is a good idea for you to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

#### What if you have transfer math credit?

- If you have credit for Math 181: Calculus 1, begin with Math 182: Calculus 2.
- If you have credit for Math 181: Calculus 1 <u>and</u> Math 182: Calculus 2, then you are ready for more advanced mathematics classes. Consider Math 212: Vector Calculus or Math 240: Ordinary Differential Equations, as these both count toward a Physics major.

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#### Mathematics

Math 181: Calculus 1 and Math 182: Calculus 2 are the first required mathematics courses for Mathematics majors and minors.

**Should you take Math 170 before Math 181?** Please consult the <u>calculus flow chart</u> to see whether it is a good idea for you to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

#### What if you have transfer math credit?

- If you have credit for Math 181: Calculus 1, begin with Math 182: Calculus 2.
- If you have credit for Math 181: Calculus 1 and Math 182: Calculus 2, then you are ready
  for more advanced mathematics classes. Consider Math 210: Multivariable Calculus or
  Math 240: Ordinary Differential Equations, as these both count toward the Mathematics
  major and minor.

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## **Computer Science**

Computer Science requires Math 181: Calculus 1.

**Should you take Math 170 before Math 181?** Please consult the <u>calculus flow chart</u> to see whether it is a good idea for you to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

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#### **Environmental Studies**

Environmental Studies offers both the BA and the BS, each with different requirements. If you are not sure about which degree is the best for you, please contact <u>Dr. Peter Brewitt</u>, chair of the <u>Environmental Studies department</u>, to speak with an advisor for guidance.

Choose one (if you are not sure, choose BS):

- BA in Environmental Studies
- BS in Environmental Studies

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#### **BA in Environmental Studies**

The BA in Environmental Studies requires no mathematics courses, so choose a mathematics course that suits your interests:

- You want to understand what mathematics is, or have had less-than-stellar experiences in mathematics in the past.
- You want to understand or analyze data.
- You want to learn how mathematics can be used to model change (like population growth, disease spread, trajectories of falling objects).

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#### **BA in Environmental Studies**

You want to understand what mathematics is, or you've had less-than-stellar experiences in mathematics.

Take Math 120: Appreciation of Mathematics.

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## **BA in Environmental Studies**

You want to understand or analyze data.

Take Math 140: Introductory Statistics.

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#### **BA in Environmental Studies**

You want to learn how mathematics can be used to model change (like population growth, disease spread, trajectories of falling objects).

Take Math 170: Functions Modeling Change or Math 181: Calculus 1.

**Should you take MATH 170 before MATH 181?** Please consult the <u>calculus flow chart</u> to see whether it is a good idea to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

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**BS** in Environmental Studies: The BS in Environmental Studies requires one of these:

- Math 181: Calculus 1 or
- Math 140: Introductory Statistics.

Math 140: Introductory Statistics is a great choice for many students. This course helps students learn to make sense of data.

If you are interested in learning how mathematics can be used to model change (like population growth, disease spread, trajectories of falling objects), then Math 170: Functions Modeling Change or Math 181: Calculus 1 is a good choice for a first mathematics course.

**Should you take Math 170 before Math 181?** Please consult the <u>calculus flow chart</u> to see whether it is a good idea for you to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

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# **Psychology or Biology**

Although Psychology and Biology do not have mathematics requirements, Math 140: Introductory Statistics is a great choice because these fields use statistics often.

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#### **Data Science**

A program, not a major, Data Science requires Math 181: Calculus 1 as well as Math 221: Statistical Methods. Math 221 requires Computer Science 235 as a prerequisite.

**Should you take Math 170 before Math 181?** Please consult the <u>calculus flow chart</u> to see whether it is a good idea for you to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

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#### Pre-health career

Your choice of mathematics course depends largely on your major. Check those requirements first. We recommend Math 140: Introductory Statistics for most pre-health career students because some schools require a semester of statistics for admissions. Some professional schools, particularly dental and pharmacy school, require an additional semester of math. Very few require a calculus course.

If the school to which you are applying requires an additional semester of math, consider taking Math 170: Functions Modeling Change or Math 181: Calculus 1.

Should you take MATH 170 before taking MATH 181? Please consult the <u>calculus flow</u> <u>chart</u> to see whether it is a good idea for you to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

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Anything else (Art History, Studio Arts, English Language & Literature, Government, International Affairs, History, Humanities, Intercultural Studies, Modern Languages, Literatures, & Cultures; Philosophy; Religion; Sociology; Anthropology; Theatre)

These majors require no mathematics courses, so choose a mathematics course that suits your interests:

- You want to understand what mathematics is, or have had less-than-stellar experiences in mathematics in the past.
- You want to understand or analyze data.
- You want to learn how mathematics can be used to model change (like population growth, disease spread, trajectories of falling objects).

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A major that requires no mathematics.

You want to understand what mathematics is, or you've had less-than-stellar experiences in mathematics.

Take Math 120: Appreciation of Mathematics.

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A major that requires no mathematics.

You want to understand or analyze data.

Take Math 140: Introductory Statistics.

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## A major that requires no mathematics

You want to learn how mathematics can be used to model change (like population growth, disease spread, trajectories of falling objects).

Take Math 170: Functions Modeling Change or Math 181: Calculus 1.

**Should you take MATH 170 before MATH 181?** Please consult the <u>calculus flow chart</u> to see whether it is a good idea to start with Math 170: Functions Modeling Change before taking Math 181: Calculus 1.

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Use this flow chart if you want or need to take calculus.

Do you have credit for Math 181: Calculus 1 (through transfer, dual enrollment, or AP calculus credit)? See the <u>registrar's placement page</u> for more info about the scores required for credit at Wofford.

- Yes
- <u>No</u>

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You have credit for Math 181: Calculus 1 (through transfer, dual enrollment, or AP calculus credit)

You are ready to take Math 182: Calculus 2.

If you have credit for both Math 181: Calculus 1 and Math 182: Calculus 2, then you are ready to take either

- Math 210: Multivariable Calculus or
- Math 240: Ordinary Differential Equations.

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You do not have credit for Math 181: Calculus 1 (through transfer, dual enrollment, or AP calculus credit).

Have you taken calculus (Note that precalculus is different from calculus)?

- Yes—and I feel well prepared to succeed in calculus at Wofford
- Yes—but I feel I would benefit from further preparatory work before attempting Calculus again
- <u>No</u>

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You do not have credit for Calculus 1, but you have taken calculus and feel well prepared to succeed in calculus at Wofford.

Take Math 181: Calculus 1.

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You have taken calculus without receiving credit for it, and feel that you would benefit from further preparatory work before attempting calculus again.

Take Math 170: Functions Modeling Change; see its description below.

A study of the mathematical building blocks used to describe behavior seen in natural and social sciences as presented in Calculus 1. Includes forms and graphs of polynomial, trigonometric, exponential, and logarithmic functions. Also includes a focus on the relationship between scientific problems and mathematical expressions. As this course is intended specifically to prepare students for MATH 181: Calculus 1, a special emphasis will be placed on using functions to model change. Students who previously earned a C or higher in Math 160 or Math 181 are not permitted to enroll or earn credit for this course.

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You have not taken calculus.

#### Which of these statements best describes your mathematical background?

- My algebra skills are good and I have studied trig functions (like  $\sin(x)$  and  $\tan(x)$ ), exponentials ( $e^x$ ,  $2^x$ ), and logarithms ( $\ln x$ ).
- I would benefit from strengthening my algebra skills and learning more about these functions.

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You have not taken calculus, but your algebra skills are good and you have studied trig functions, exponentials, and logarithms.

Take Math 181: Calculus 1.

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You have not taken calculus and would benefit from strengthening your algebra skills.

Take Math 170: Functions Modeling Change. Here's the course description.

A study of the mathematical building blocks used to describe behavior seen in natural and social sciences as presented in Calculus 1. Includes forms and graphs of polynomial, trigonometric, exponential, and logarithmic functions. Also includes a focus on the relationship between scientific problems and mathematical expressions. As this course is intended specifically to prepare students for MATH 181: Calculus 1, a special emphasis will be placed on using functions to model change. Students who previously earned a C or higher in Math 160 or Math 181 are not permitted to enroll or earn credit for this course.