Outlier.org

Data Science Prep Certificate
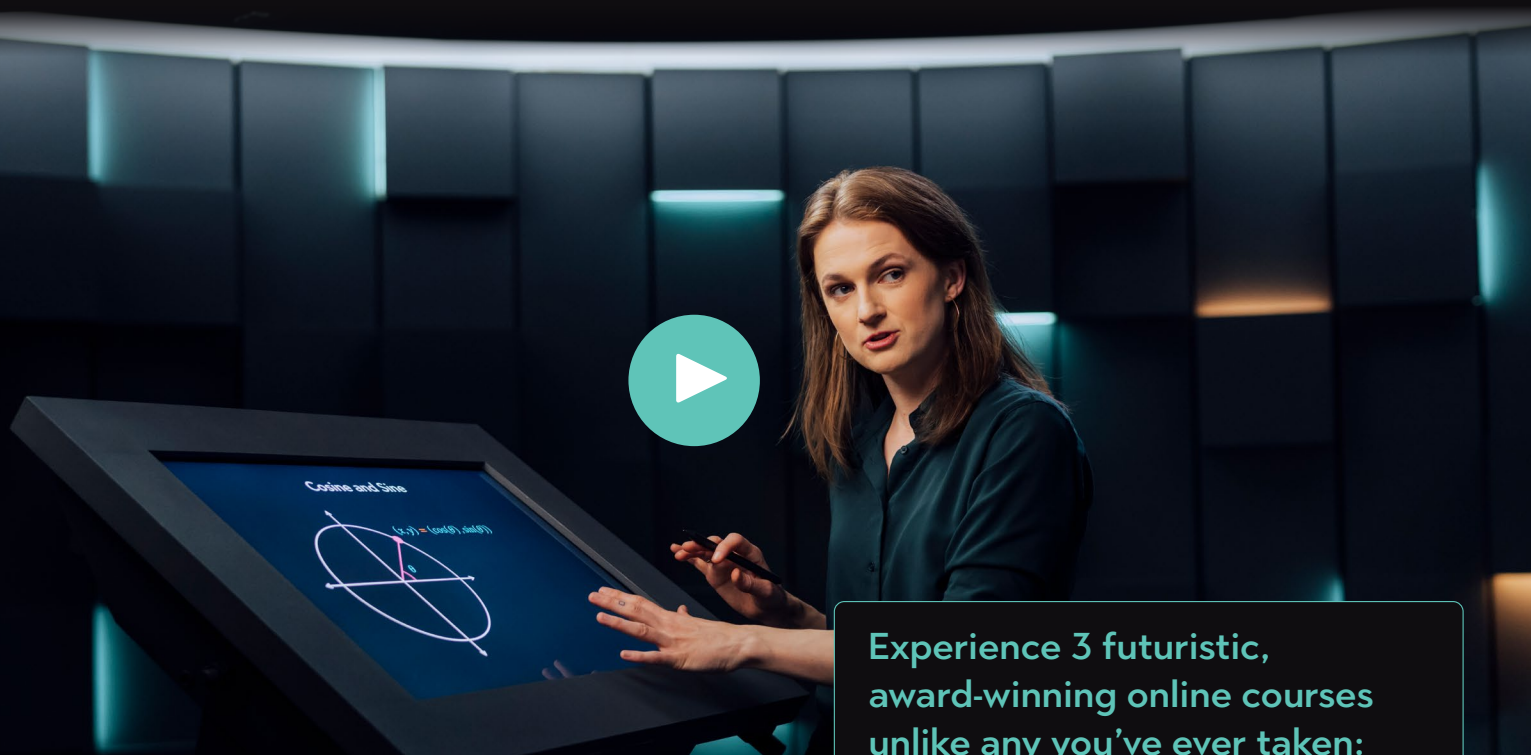
Precalculus   Calculus I   Intro to Statistics

Put yourself ahead of the curve.

The first step towards a lucrative career in data science is a strong quant foundation in mathematics and statistics. Outlier's Data Science Prep Certificate makes it easier than ever to get started, no matter your math savvy, nor where you are in your career or academic journey.

> " LOVE LOVE LOVE. I've taken a lot of online courses over the years and Outlier blows them all away—in design, teachers, production, content, and facilitating learning. — Jacqueline W "

About Outlier.org

Outlier.org (from the co-founder of MasterClass) has developed the world's best online, university-level courses, taught by some of the most celebrated educators in the world. Our courses employ engaging content and cutting-edge educational technology to create an immersive, student-friendly experience. Our mission is to make higher education more accessible, equitable, and affordable for everyone.

Experience 3 futuristic, award-winning online courses unlike any you've ever taken: Precalculus, Calculus I, and Intro to Statistics. Whether you're looking to advance your career or are on a path to a degree, this sequence will help you move forward faster, for less.
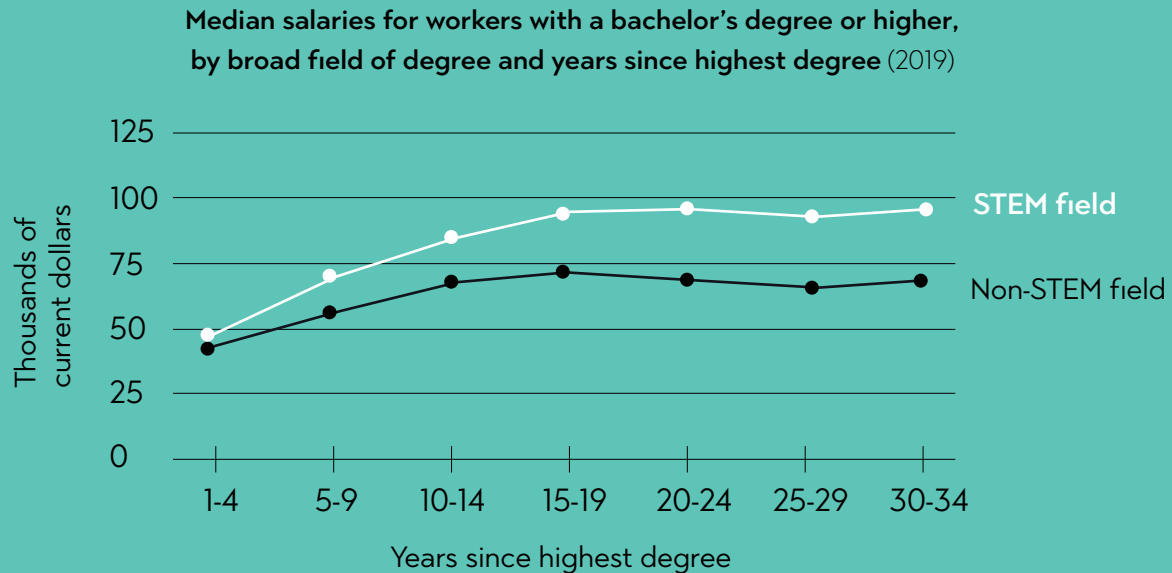
Let's get started.

Outlier.org   GET STARTED

Data Science:
"The sexiest job of the 21st century"
- HARVARD BUSINESS REVIEW

Median salaries for workers with a bachelor's degree or higher, by broad field of degree and years since highest degree (2019)

Thousands of current dollars (y-axis: 0, 25, 50, 75, 100, 125)

Years since highest degree (x-axis: 1-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34)

STEM field

Non-STEM field

There was a **650% increase in data science jobs** from 2012-2020.
[LINKEDIN]

11.5 million new jobs in the field by 2026.
[BLS.GOV]

"Data Scientist" ranked as **#2 Best Jobs in America;** with median starting **salary of $113,000+**
[GLASSDOOR]

"In the long term, it would probably be unwise to bet against data science as a career move."
- FORBES

Outlier.org   GET STARTED

Certificate Highlights

Best-in-class: Our courses are proving to match traditional, in-person college course success rates—unprecedented results in the world of for-credit online college education.

100% online: Experience cinematic, on-demand video lectures & materials.

Designed for maximum flexibility: Learn on your own schedule, with lectures & course materials available 24/7, and weeklong exam windows.

Futuristic, evidence-based learning: Enjoy interactive tools built by game designers to maximize retention & comprehension.

World-class instructors: Learn from brilliant & approachable hand-picked instructors, from top schools like MIT and Duke.

Outcomes

✓**Earn a shareable certificate** in Data Science Prep from Outlier

✓**Earn 9 transferable college credits** (3 per course) from the University of Pittsburgh, a top 60 US university (*Learn more about transferring credits here.*)

✓**Success guaranteed:** We're so sure you'll succeed, we offer a full refund for each course if you do all of the work and don't pass.

"
After taking Calc with Outlier, I feel confident that I can take the higher math classes that are involved in engineering. — Hannah O.
"

Outlier.org   GET STARTED

What You'll Learn

We're focused on giving you the best start, so you can stay focused on the end result.

We chose the courses in this sequence to give you the strong mathematical foundation you'll need to master data science.
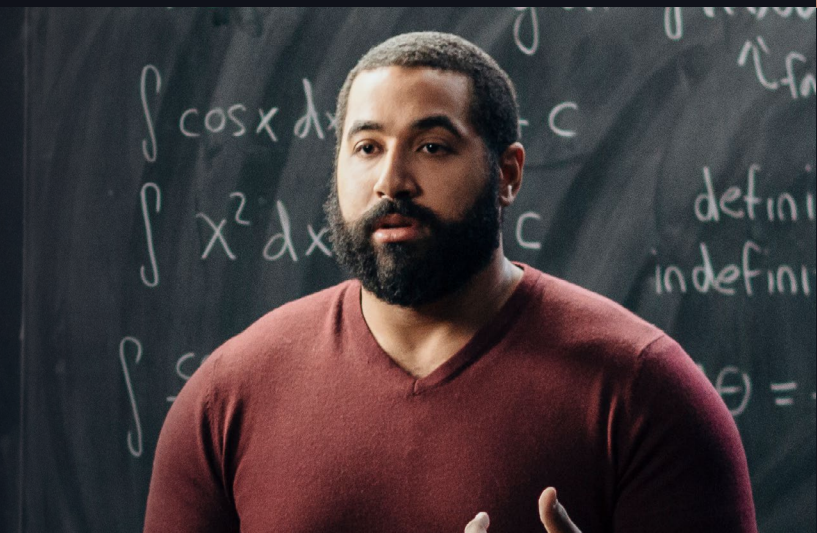
PRE Precalculus

After taking Precalculus with Outlier, you'll never look at numbers the same way again. This groundbreaking, cinematic course is the perfect gateway to math's more advanced realms. This course focuses on: algebra essentials, equations and inequalities, functions, systems of equations, trigonometric identities and equations, and further applications of trigonometry.

Calculus I

Using real-world examples from science to sports to human happiness, this painless(ish) course will help you master calculus (and even enjoy some non-derivative laughs along the way). This course focuses on: Limits, derivatives, the uses of the maxima, minima, and convexity of functions, and the fundamental theorem of integral calculus.

Intro to Statistics

This Statistics course is a critical thinking class designed to help you see order in chaos. You'll gain data analysis tools that help you better understand the world and make better decisions. This course focuses on: Probability, normal distribution, the central limit theorem, confidence intervals, hypothesis testing, linear regression, correlation, and F-distribution.

Need support? You're not alone.

Outlier courses are proving to match traditional, in-person college course success rates—unprecedented results in the world of for-credit, online college education. You'll enjoy the flexibility of self-directed learning as well as the benefits of the learning community we've built.

This sequence includes:

Free tutoring
Enjoy individualized video tutoring sessions with subject-matter experts who are standing by to help you when you need it.

Office hours chat
You'll have even more access to experts through regular office hours in cohort chat.

Dedicated Student Success team
Our dedicated Student Success team is available to assist you—and push you—to help you pass with flying colors.

Cohort chat
Each cohort includes a group chat for students to ask and answer questions, discuss the material, and network. We've seen heartwarming moments arise and friendships develop there.
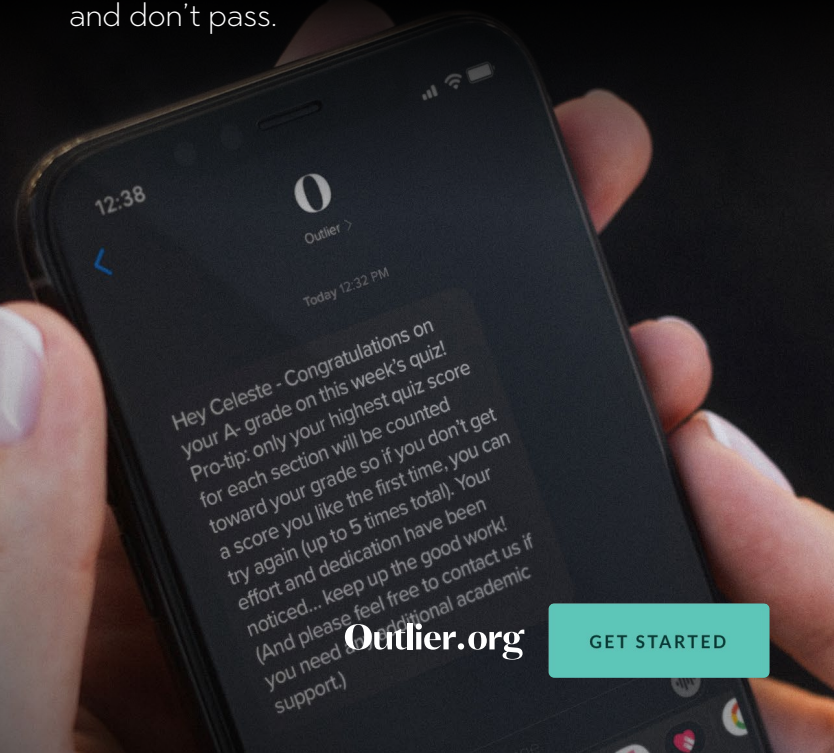
Credit transfer assistance
Our team can also help advise and advocate for students transferring Outlier course credits to another institution.

Full refund
We're so sure you'll succeed, we offer a full refund for each course if you do all of the work and don't pass.

"
I had a wonderful experience with the community, the subject and with my peers. Outlier has an incredible support staff willing to help us with everything from answering queries to clearing subject doubts, and the course content is really engaging. — Katie A.
"

12:38

Outlier ⟩

Today 12:32 PM

Hey Celeste - Congratulations on your A- grade on this week's quiz! Pro-tip: only your highest quiz score for each section will be counted toward your grade so if you don't get a score you like the first time, you can try again (up to 5 times total). Your effort and dedication have been noticed... keep up the good work! (And please feel free to contact us if you need additional academic support.)
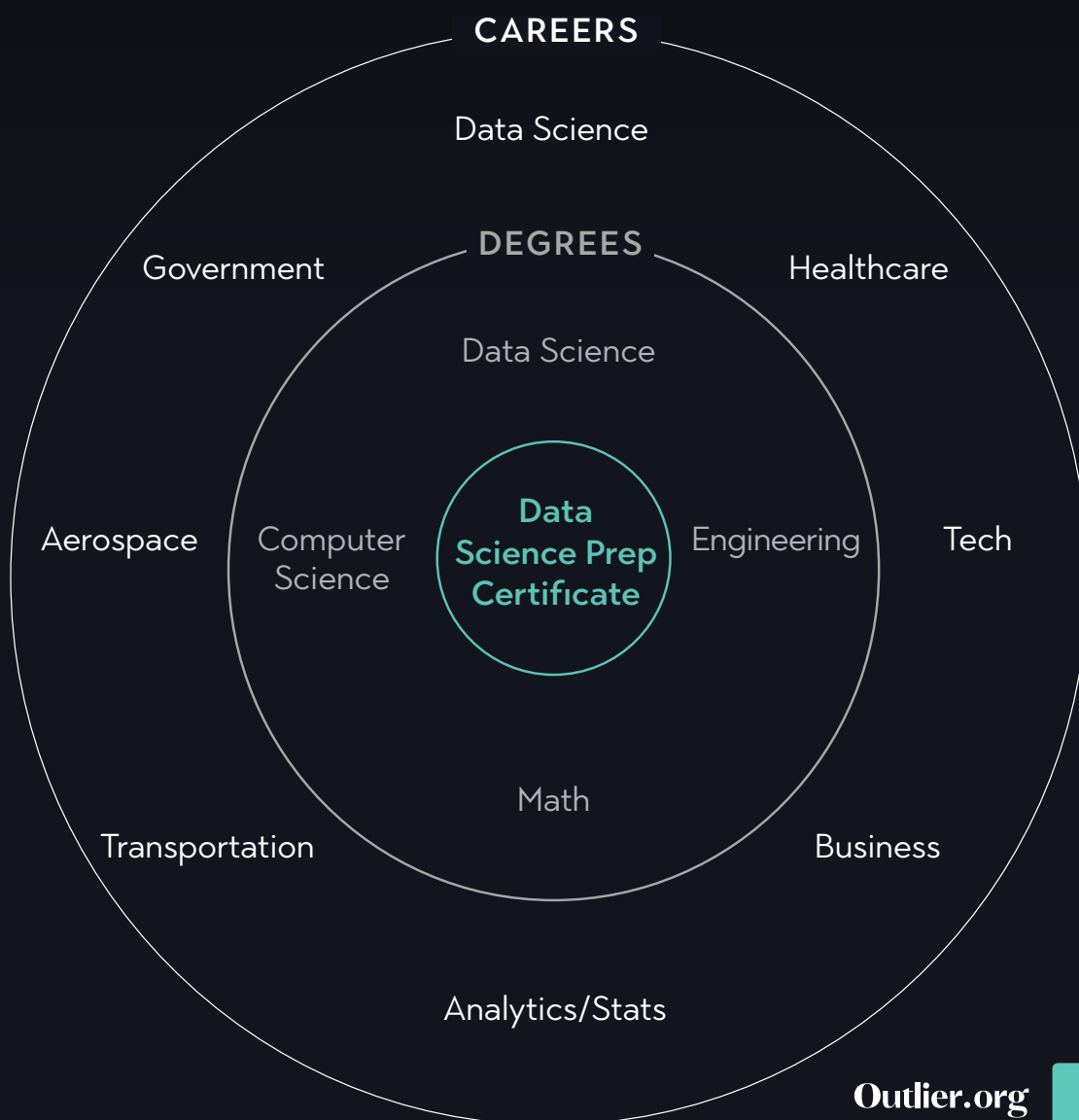
Outlier.org

GET STARTED

Who's it for?

This certificate sequence is specifically designed for:

- People from a non-technical background exploring a pivot

- Working professionals looking to level up in their career

- People preparing for a data science boot camp

- Students considering an undergraduate degree or MS in data science

- People who have struggled with calculus before

- People who prefer self-study

> "
> I always struggled in a traditional classroom setting with mathematics. Outlier's structure made it possible to give the concepts in a way that allowed for self-discovery. It really helped me as someone with no real math background understand calculus. — Zoe B.
> "

CAREERS

Data Science

DEGREES

Government   Healthcare

Data Science

Aerospace   Computer Science   **Data Science Prep Certificate**   Engineering   Tech

Math

Transportation   Business

Analytics/Stats

Outlier.org   GET STARTED

The Outlier Experience

Cinematic, on-demand lectures with a modern twist

- **Adjustable playback speed:** speed up or slow down lectures to suit your prefs, similar to popular podcast or audiobook apps. (Aaron, our Founder, wished he had this feature when he was in school.)

- **Searchable transcripts** so you can jump to any point in a lecture

Active Learning textbooks

- Active Learning textbooks include interactive graphs, animated gifs, funny memes, Youtube videos, and other material that traditional textbooks don't...and can't.

Guided notes

- We've pre-taken lecture notes so you can focus on our riveting lectures... but we've left a few key details blank, since that's proven to help you retain what you learn.
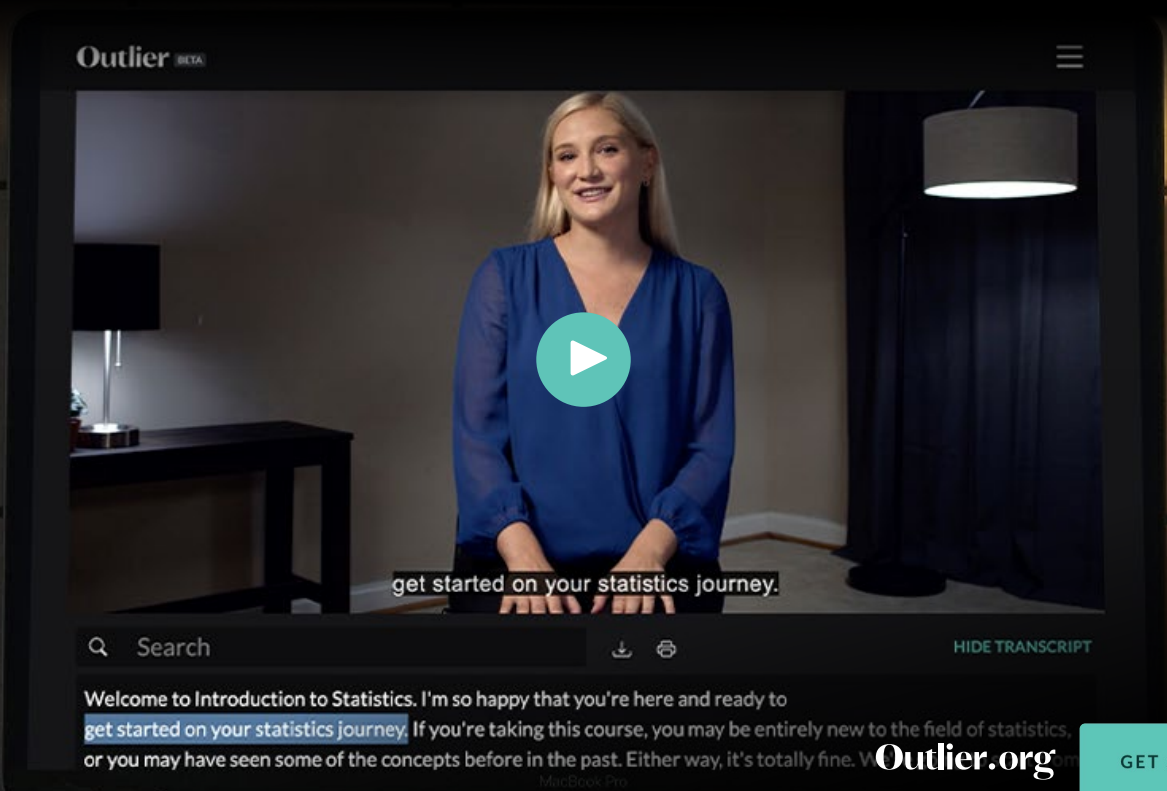
Mastery grading

- Take quizzes up to 5 times and pick your best score. It's proven that one of the best ways to learn is from your mistakes.

Designed to be flexible

- All course materials available 24/7

- Choose between 7-week intensive or 14-week standard cohorts

- Weeklong exam windows put you in control of your schedule

> "
>
> I could not stop watching the videos and doing all the exercises & tests. I'm a total learning nerd, but the design & structure of this course is like nothing I've experienced. And my retention seems to be really high so far :) — Outlier Alumnus
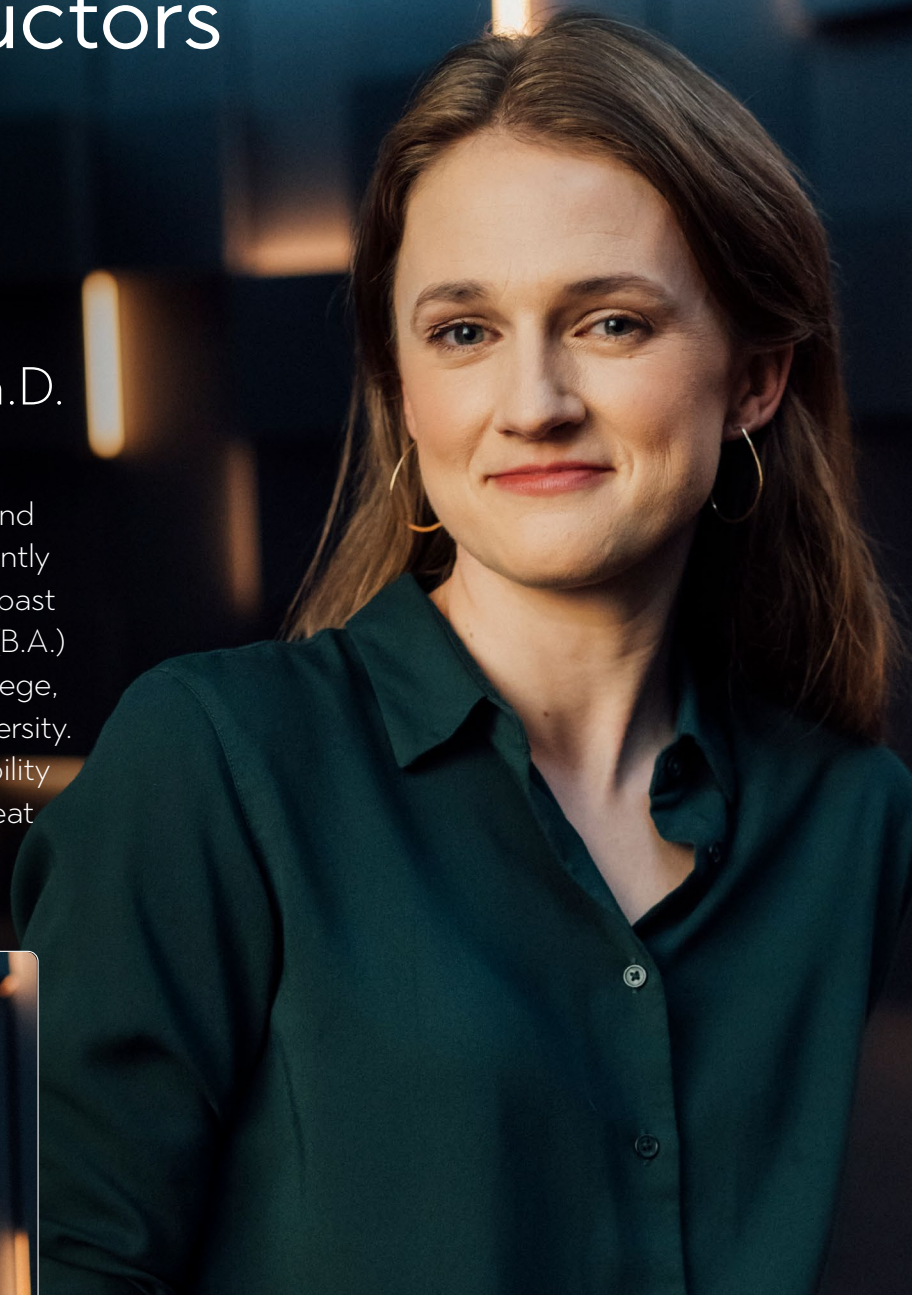>
> "

Outlier.org

GET STARTED

Meet Your Instructors
Precalculus

Kelsey Houston-Edwards, Ph.D.

UNIVERSITY OF TÜBINGEN

Kelsey Houston-Edwards is a freelance writer and mathematician who presents math as a constantly evolving field, rather than a dead art studying past discoveries. She earned her Bachelors of Arts (B.A.) in Philosophy and Mathematics from Reed College, and her Ph.D. in Mathematics from Cornell University. Her dissertation research in the field of probability theory developed estimates for the discrete heat kernel on various graph domains.

Po-Shen Loh, Ph.D.

CARNEGIE MELLON UNIVERSITY

Po-Shen Loh is a social entrepreneur, working in the fields of mathematics, education, and healthcare. He founded expii.com, a free personalized learning platform that gives the middle school math curriculum a focus on creative thinking. His educational outreach through public talks and events resonates with thousands every year, and he has helped create YouTube videos with over 10 million views in total.

> " If you're looking to get your math prerequisite out of the way, I couldn't recommend a better place to take it than Outlier. Believe it or not, it makes calculus fun. — Connor H. "

Outlier.org

GET STARTED

Meet Your Instructors
Calculus I

Hannah Fry, Ph.D.

UNIVERSITY COLLEGE LONDON

Dr. Hannah Fry is an associate professor in the mathematics of cities at the Centre for Advanced Spatial Analysis at University College London. She works with an interdisciplinary team to study many aspects of human behavior, such as shopping, relationships, transport, and urban crime.

John Urschel, Ph.D. Candidate

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

John Urschel is a doctoral candidate in applied mathematics at the Massachusetts Institute of Technology and a retired NFL guard and lineman for the Baltimore Ravens.

Tim Chartier, Ph.D.

DAVIDSON COLLEGE

Dr. Tim Chartier is an award-winning professor of mathematics and computer science at Davidson College. A skilled teacher and researcher, Professor Chartier received the Alder Award and the Daniel Solow Author's Award from the Mathematical Association of America and is an Alfred P. Sloan Research Fellow.

Outlier.org

GET STARTED

Meet Your Instructors
Intro to Statistics

Olanrewaju Michael Akande, Ph.D.
DUKE UNIVERSITY

Olanrewaju Michael Akande is a professor in the Department of Statistical Science at Duke University. He covers Discrete Random Variables, Continuous Random Variables & The Random Variables, The Central Limit Theorem.

Ashley Carroll, M.S.
COLLEGE OF CHARLESTON

Ashley Carroll is an adjunct professor in the Department of Mathematics at the College of Charleston. She covers Statistical Thinking, Descriptive Statistics, and Probability.

AnnMaria De Mars, Ph.D.
**THE JULIA GROUP
7 GENERATION GAMES**

AnnMaria De Mars is the President and Founder of both The Julia Group and 7 Generation Games. She covers Categorical Data Analysis: The Chi-Square Distribution, and Linear Regression, Correlation, F-Distribution and One Way ANOVA within this course.
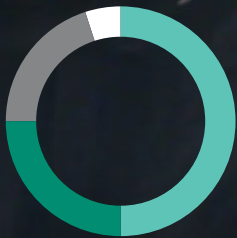
Gregory Matthews, Ph.D.
LOYOLA UNIVERSITY CHICAGO

Gregory Matthews is a tenured professor in the Department of Mathematics and Statistics at Loyola University Chicago. He covers Confidence Intervals, Hypothesis Testing With One Sample, Hypothesis Testing With Two Means.

Outlier.org   GET STARTED

Core Curriculum Overview

GRADING RUBRIC

50% - QUIZZES

25% - FINAL EXAM

20% - MIDTERM EXAMS

5% - PARTICIPATION

PRE Precalculus

Ch 1: *Numbers*

Ch 2: *Functions + Graphs*

Ch 3: *Equalities + Inequalities*

Ch 4: *Manipulating Functions*

MIDTERM 1 *(open for 1 week)*

Ch 5: *Linear Functions*

Ch 6: *Polynomial Functions*

Ch 7: *Exponential Functions*

MIDTERM 2 *(open for 1 week)*

Ch 8: *Periodic Functions*

Ch 9: *Trigonometric Functions*

Ch 10: *Polar Coordinates + Conic Sections*

FINAL EXAM *(open for 1 week)*

Calculus I

Ch 1: *Functions*

Ch 2: *Limits*

MIDTERM 1 *(open for 1 week)*
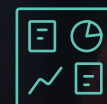
Ch 3: *Differentiation*

Ch 4: *Applying Differentiation*

MIDTERM 2 **(open for 1 week)**

Ch 5: *Integration*

Ch 6: *Applying Integration*

FINAL EXAM *(open for 1 week)*

Intro to Statistics

Ch 1: *Introduction to Statistics & Statistical Thinking*

Ch 2: *Descriptive Statistics*

Ch 3: *Probability*

Ch 4: *Discrete Random Variables*

MIDTERM 1 *(open for 1 week)*

Ch 5: *Continuous Random Variables & The Normal Distribution*

Ch 6: *The Central Limit Theorem*

Ch 7: *Confidence Intervals*

MIDTERM 2 *(open for 1 week)*

Ch 8: *Hypothesis Testing With One Sample*

Ch 9: *Hypothesis Testing With Two Samples*

Ch 10: *Categorical Data Analysis: The Chi-Square Distribution*

Ch 11: *Linear Regression, Correlation, F-Distribution & One-way ANOVA*

FINAL EXAM *(open for 1 week)*

Pricing + Application

No application necessary
This certificate sequence is open to all.

Have Qs? Need help?
We're here for you. Reach out at success@outlier.org

CERTIFICATE COST Purposefully Affordable	0% INTEREST Monthly Payment Option	EMPLOYER Tuition Reimbursement
Outlier courses are purposefully priced at 50% less than the average college cost.	Use Klarna to pay over 18 months with no interest or fees. Outlier is proud to cover student interest fees.	Check with your company. Many employers fully cover Outlier courses and certificates.
$2388 ~~$5328~~	$100/mo.	Free

Choose the 7-week Intensive or
14-week Standard cohorts for each course

Time commitment
Standard: 10-15 hrs a week per course
Intensive: 20-30 hrs a week per course

Let's get started.

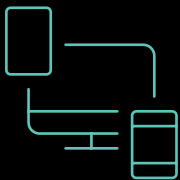**Outlier.org**   GET STARTED

Next Steps

Step 1:
Use this link to enroll:

GET STARTED

↓

Step 2:
Register for your courses: choose their length (14-week Standard or 7-week Intensive), and pick your start dates.

↓

Step 3:
See you in class!

Have questions?
· hello@outlier.org
· schedule a call with enrollment

Who We Are

We are a group of people who have set out to create the world's best, for-credit, online courses and offer them at a fraction of the cost of what's currently available.

Many of us have or had student debt ourselves, or wish we had better educational access growing up. Our founder & CEO, Aaron Rasmussen (co-founder of MasterClass), transferred community college courses into Boston University to make his degrees more affordable—and his experiences during that time planted the seeds for what would eventually become Outlier.

We are a passionate multidisciplinary team drawing from the worlds of education, technology, film, gaming, VR, and beyond. We tap respected subject matter experts to guide our course creation every step of the way.

What We Do

Bringing all these different backgrounds to the table, we've been hard at work developing the world's best online courses, taught by some of the most celebrated educators in the world.

So far, it's working: our courses are proving to match traditional in-person college course success rates—unprecedented results in the world of for-credit, online college education.

We're offering all this at over 50% less than the average college course costs. So far, we've saved our students millions of dollars in tuition fees, and we're just getting started.

TIME
BEST INVENTIONS 2020

FAST COMPANY
INNOVATION BY DESIGN
WINNER
2020

Outlier.org

GET STARTED

Outlier.org

GET STARTED