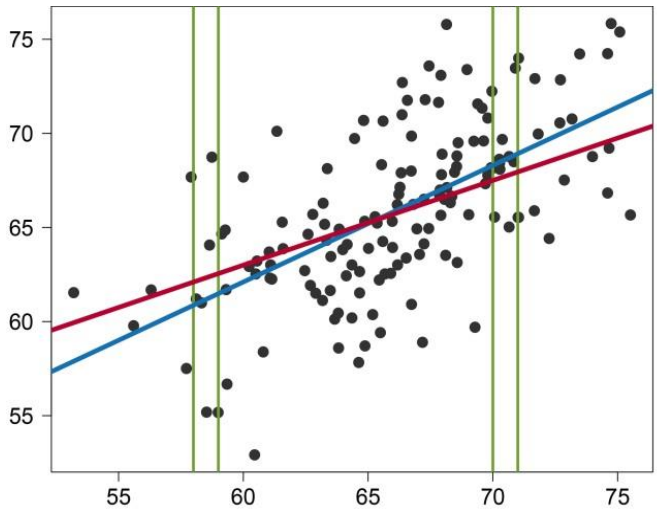
Welcome to the

Data Science Major

in the College of Computational, Mathematical, and Physical Sciences

College Advisement Center
- Website: https://science.byu.edu/advisement
- Email: cmsadvising@byu.edu
- Phone: 801-422-2674
- Office: N-181 ESC

Statistics Department
- Website: statistics.byu.edu
- Email: statsec@stat.byu.edu
- Phone: 801-422-4505
- Office: WVB 2152



Department Advisor/Internship coordinator – Kimri Mansfield
- Email: kmansfield@stat.byu.edu
- Phone: 801-422-4506
- Office: WVB 2152D

Career Services – Sara Larson
- Website: careers.byu.edu
- Email: sara_larson@byu.edu
- Schedule: https://science.byu.edu/careers
- Office: 2173 WVB

Department Student Hiring – Renea Scott
- Website: statistics.byu.edu/teaching-assistant
- Email: rscott@stat.byu.edu
- Phone: 801-442-4527
- Office: WVB 2152A

Club- BYU Statistics Association
- Contact: Jamie Perrett
- Contact Information: perrett@stat.byu.edu, 801-422-6053, https://statistics.byu.edu/byu-statistics-association

Club - Mu Sigma Rho Club, Analytics Club
- Contact: Kimri Mansfield
- Contact Information: WVB 2152D, 801-422-4506, kmansfield@stat.byu.edu

Club-Data Science:
- Information: datascience-assoc@byu.edu

Things to Know

Resources for Graduation Planning

- Flow Charts and Packets can be found here: https://science.byu.edu/advisement/explore-majors-and-minors.
- MAPs can be found in the university catalog.
- Academic advisors in N-181 ESC will help you understand course sequencing and help you plan classes to efficiently fill requirements. They can also help you with study skills and initial career exploration as well as connecting you with correct resources.
- Plan and register from your plan on MyMAP. Your academic advisor can help you understand how to best utilize this resource.
- Evaluate your current program. Periodically major programs are updated. An academic advisor would be happy to review the differences between the programs with you to help you determine what would be best for you.
- Consider meeting with a faculty advisor in your department. Contact info is found on the first page of this packet.

Tutoring Resources and Research

- Volunteer peer tutors are available through Y-Serve if you need help with a class. Also, if you excel in a subject, consider serving your fellow students by becoming a tutor. Find out more here: https://tutoring.byu.edu/.
- Many departments provide TA Tutorial Labs and research opportunities. Check your department for details:
  - Chemistry and Biochemistry: C-100 BNSN, 801-422-3667, https://www.chem.byu.edu/department/faculty/
  - Computer Science: 3361 TMCB, 801-422-3027, cs-office@byu.edu
  - Geological Sciences: S-389 ESC, 801-422-3918, geology@byu.edu
  - Mathematics: 275 TMCB, 801-422-2061, office@mathematics.byu.edu
  - Mathematics Education: A180 ESC, 801-422-1735, office@mathed.byu.edu
  - Physics and Astronomy: N-283 ESC, 801-422-4361, physics_office@byu.edu
  - Statistics: 2152 WVB, 801-422-4505, statsec@stat.byu.edu

Prepare Early for a Career

- Check out Careers & Experiential Learning in 1134 WSC and at careers.byu.edu.
- Visit BYU's Career Studio to work on your resume, cover letter, or other professional documents; learn to navigate LinkedIn, Handshake, and CareerShift; receive networking help; practice interview skills.
- Consider doing an internship.
  - Attend the STEM and Career Fairs held in fall and winter semesters.
  - Talk to your department about internship opportunities.
  - Use LinkedIn and Handshake (see flyer in this packet) to connect with alumni and apply for jobs/internships. BYU Connect is another great resource for networking (connect.byu.edu).
  - Talk with the college or department Career Director who can help you search for internships as well as assist you with many other career related strategies (see first page of this packet).
- Consider taking StDev 317 (Career Strategies) your junior year.
- Consider taking either Chem 502, CS 502, Geol 502, Math 502, PHSCS 502, or STAT 502 (1-credit Networking Class). Class is held for 1 hour each week.

BYU
Data Science

Requirements / Prerequisites
2026-2027 Academic Year

Major (74.5 Hours)

1. Complete the following four courses: CS 111, DS 115, DS 180, Math 112, Stat 121.
2. Complete Math 113, Math 213, Math 215.
3. Complete the following courses: Stat 230, Stat 240, Stat 251, Stat 330.
4. Complete the following courses: CS 235, CS 240, CS 452.
4. Complete the following courses: CS 270, CS 404, Math 380, PHSCS 383, Stat 281, Stat 386.
5. Complete 12 hours from the following: Bio 364, CS 462, CS 473, CS 474, CS 482, CS 483, CS 574, CS 575, CS 580, Econ 398, Econ 484, Econ 588, Geol 230, Geol 531, Math 404, Math 510, Math 522, PHSCS 580, Stat 250, Stat 340, Stat 448, Stat 486, Stat 496R.
6. Complete 3 hours from the following: CS 473, CS 474, CS 483, CS 497R, Math 399R, Math 404, Math 522, PHSCS 492R, PHSCS 497R, Stat 486, Stat 496R, Stat 497R.

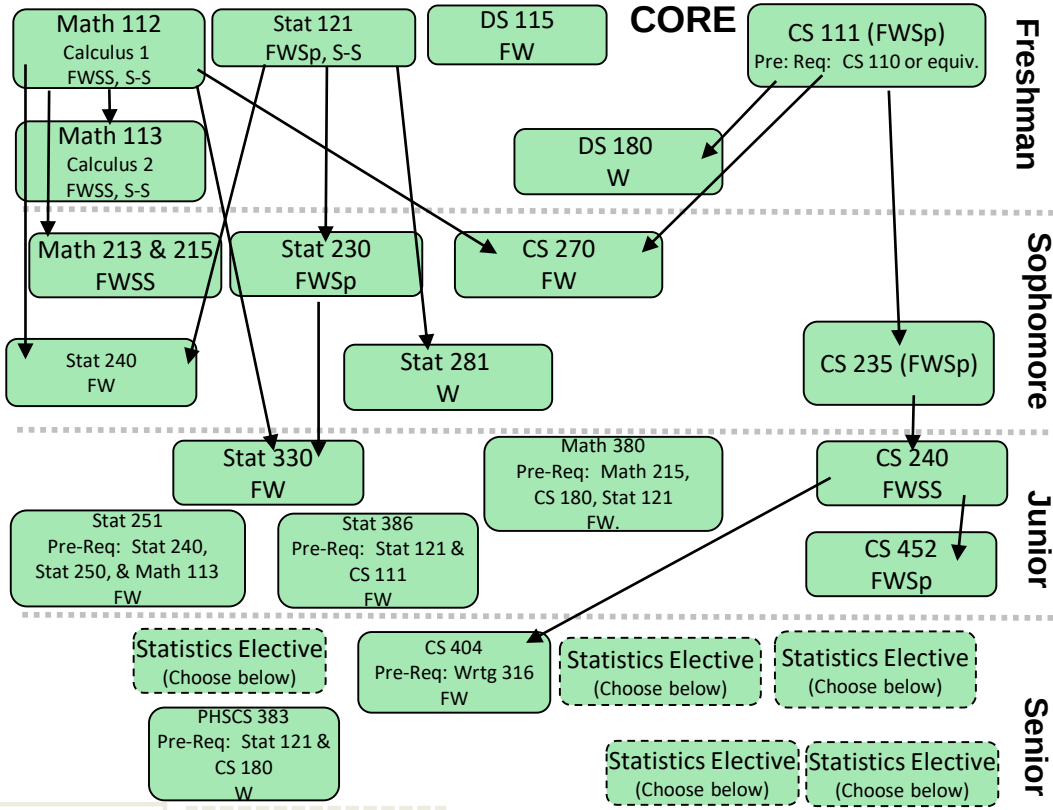
Key

- Core class
- Elective Class
- Prerequisite

F=Fall, W=Winter, Sp=Spring, Su=Summer, S-S=Spring-Summer, SS=Spring & Summer.

Guide only—please consult MyMAP for full requirements.

Please Note: When Taught is subject to change.



Requirement 6
Select 12.0 credit hours from the following:

- Bio 364 — Pre-Req: CS 240 & MMBIO 240 — F
- CS 462 — Pre-Req: CS 324 — See Department
- CS 473 — Pre-Req: Math 213 & Math 215 & CS 270 — FW
- CS 474 — Pre-Req: CS 312 or Math 320 — FW
- CS 482 — Pre-Req: CS 240 & CS 312 — F
- CS 483 — Pre-Req: CS 482 — W
- CS 574 — Pre-Req: C S 312 — F
- CS 575 — Pre-Req: Math 213 — W
- CS 580 — Pre-Req: Math 213 & Math 215 — F
- Econ 398 — Pre-Req: Econ 388 — Contact Dept.
- Econ 484 — Pre-Req: Econ 388 & Econ 380 — Contact Dept.
- Econ 588 — Pre-Req: Econ 388 — Contact Dept.
- Geol 230 — Pre-Req: Geol 111 — F
- Geol 531 — Pre-Req: Stat 121 — F
- Math 404 — Pre-Req: Math 402 & Math 403 — FW
- Math 510 — Pre-Req: Math 410 — Contact Dept.
- Math 522 — Pre-Req: Math 213, Math 215, Math 314, CS 111 — Contact Dept.
- PHSCS 580 — Pre-Req: Math 213 & Math 215 — F
- Stat 250 — Pre-Req: Stat 121 — FW
- Stat 340 — Pre-Req: Stat 240 & Math 113 — FW
- Stat 448 — Pre-Req: Stat 240, Stat 330, & Stat 250 — F
- Stat 486 — Pre-Req: Stat 330 & 340 & 386 — FW
- Stat 496R — Pre-Req: Dept. Consent (up to 3 credits) — Contact Dept.

Requirement 7
Select 3.0 credit hours from the following:

- CS 473 — Pre-Req: Math 213 & Math 215 & 270 — FW
- CS 474 — Pre-Req: CS 312 or Math 320 — FW
- CS 483 — Pre-Req: CS 482 — W
- CS 497R — Pre-Req: Research Agreement — FWSS
- Math 399R — Pre-Req: Internship Application — Contact Department
- Math 404 — Pre-Req: Math 402 & Math 403 — FW
- Math 522 — Pre-Req: Math 213, Math 215, Math 314, CS 111 — Contact Dept.
- PHSCS 492R — Pre-Req: Approved Project — FWSS
- PHSCS 497R — Pre-Req: Advisor Approval — FWSS
- Stat 486 — Pre-Req: Stat 330 & 340 & 386 — FW
- Stat 496R — Pre-Req: Dept. Consent (up to 3 credits) — Contact Dept.
- Stat 497R — Pre-Req: Dept. Consent (Variable) — Contact Dept.

Note: All Courses only count once towards the major.

Updated 8/31/2026

Handshake

At A Glance

Handshake is BYU's own job board. Employers who want to hire BYU graduates or offer internships to current students post their job openings to this website and students can apply. Just like LinkedIn, employers can view student profiles and students can network as they apply for jobs and internships.

Login to Handshake.byu.edu with your netid@byu.edu

1. Download Handshake App

- Select Continue with School
- Type in "Brigham Young University"
- Select School Login
- Input your BYU e-mail address: netid@byu.edu (it will forward emails to the e-mail you have on file with BYU)
- Handshake will send you a link via e-mail to enable your account in the app
- Navigate the app to perform all the funcions of the website that have been previoiusly mentioned

2. Complete Your Profile

- Fill in the Summary/Bio section
- Fill in your past jobs and experiences, including all the bullet points you use on your resume
- Add a professional headshot and background photo
- Information from your transcript is already uploaded
- Make your profile discoverable to employers

Remember: Every word in your profile will be searchable by students and employers

3. Apply For Jobs

- Search collections related to your major
- Search for job titles, employers, or skills
- Apply for interesting jobs that meet your skill set

4. Research Companies

- Under the Jobs tab there is an Employers tab
- Use keywords or locations to search for companies that are the right fit for you
- Plan to attend employer info sessions on BYU Campus, connect with employers at Career Fairs or set up informational interviews with them.

Remember: When looking at companies or jobs, Handshake will tell you what other BYU Students have worked there. Use this resource to network and discover more information!

5. Explore Fellow Students

- Use the People tab to find peers
- Search for fellow BYU students to view their profiles and job positions
- Attend events

Employers are
5x more likely
to view a profile that has at least one job, skill, and organization.

6. Attend Events

- The Events tab will be your key to finding info sessions interviews, and Career Fairs
- Make sure to save events you are interested in and RSVP so you do not forget to attend
- Spread the word to your friends on social media
- Use Collections to filter results in your major

BYU Career Services
1134 WSC
(801) 422-3000
careers.byu.edu

Career Services studio!

Handshake Profile Rubric

Name: Reviewer: Date:

Meets and/or Exceeds Expectations	Partially Meets Expectations	Does Not Meet Expectations
Profile includes a photo that is professionally appropriate for the student's intended industry.	Profile includes a photo but it is not professionally appropriate.	Profile does not include a photo.
My Journey section includes specific information about the student's skills, experience, and goals. The section is free from grammatical and spelling errors.	My Journey section is vague. Summary contains one or more grammatical/spelling errors.	Student has not written anything in the My Journey section.
Expected graduation date has been added to Education section.		Expected graduation date has not been added to Education section.
Experience section includes at least 2 entries. Each entry includes title, employer, dates, location and a description of the work done.	Experience section includes 2 entries but no description of work is provided.	Experience section contains less than 2 entries.
The Job Hunt, Cities, and Industries fields of the Your Career Interests section are complete.	Fill out entire Career Interests section on profile (especially types of jobs) and where you are interested in living sections (partially).	The Job Hunt, Cities, and Industries fields of the Your Interests section are not complete.
Profile includes at least 3 skills.	Profile includes 1-2 skills.	Profile does not include any skills.
A resume is uploaded to profile and is viewable by employers (public).	A resume is uploaded to the profile but not viewable by employers.	A resume is not uploaded to the profile.

All other fields/categories make your profile more robust, which makes it more likely to be viewed by employers and promote your brand.

Careers in Data Science

Example Job Titles

• Data Scientist
• Machine Learning Engineer
• Data Analyst
• Business Intelligence Analyst / Dashboard Developer
• Quantitative Researcher
• Risk Modeler / Actuary
• Data Engineer
• Machine Learning Operations (MLOps) Engineer
• Model Risk Analyst / Governance Specialist
• Research Scientist (AI/ML, NLP, or Computer Vision)

Industries Hiring Data Scientists

• **Technology:** Recommender systems (Netflix, Amazon), search engines, social media analytics.
• **Finance & Insurance:** Fraud detection, algorithmic trading, credit risk modeling, model governance.
• **Healthcare & Biotech:** Predictive modeling for patient outcomes, medical image analysis, personalized medicine.
• **Retail & Marketing:** Customer segmentation, pricing optimization, demand forecasting, dashboard reporting.
• **Government & Policy:** Public health analysis, transportation optimization, census data modeling.
• **Energy & Environment:** Smart grid optimization, climate modeling, sustainability analytics.

Example Applications

• Designing algorithms that recommend music, movies, or products tailored to individual users.
• Building predictive models to improve medical diagnoses or forecast disease outbreaks.
• Developing dashboards and visualization tools that turn raw data into actionable insights for executives and frontline staff.
• Monitoring and governing deployed machine learning models to ensure fairness, transparency, and compliance.
• Optimizing supply chains and logistics to save millions in operational costs.
• Using satellite imagery and sensor data to monitor deforestation, crop yields, or natural disasters.

Hard Skills

• **Programming & Tools:** Python, R, SQL
• **Data Wrangling & Engineering:** ETL pipelines, data cleaning, relational & NoSQL databases, cloud platforms (AWS, GCP, Azure)
• **Statistical & Mathematical Foundations:** Probability, regression, hypothesis testing, experimental design
• **Machine Learning & AI:** Supervised/unsupervised learning, deep learning, natural language processing, computer vision

• **MLOps & Governance:** Model deployment, monitoring, drift detection, version control, compliance frameworks
• **Visualization & Communication Tools:** Tableau, Power BI, matplotlib, ggplot, dashboards, storytelling with data
• **Big Data & Distributed Systems:** Spark, Hadoop, scalable computation frameworks
• **Optimization & Operations Research:** Linear programming, network flows, stochastic modeling
• **Version Control & Collaboration:** Git/GitHub, reproducible research practices

Soft Skills

• **Critical Thinking & Problem Solving:** Framing the right questions and identifying meaningful insights
• **Communication:** Translating technical results into clear stories for non-technical audiences
• **Collaboration:** Working effectively in cross-functional teams with business, engineering, and domain experts
• **Adaptability:** Learning new tools, techniques, and domains quickly in a rapidly evolving field
• **Ethical Awareness:** Recognizing fairness, bias, and transparency issues in data and models
• **Curiosity & Initiative:** Proactively exploring new approaches, datasets, and applications
• **Project Management:** Balancing competing priorities, timelines, and deliverables
• **Attention to Detail:** Ensuring accuracy and reliability in analysis and reporting.

Immediate Advice for students interested in data science:

- **Meet with an advisor ASAP.**
- **Network.** Show up early and stay late at events to meet the guests, faculty members, and other students. Ask them about their internships and other opportunities. Ask for recommendations for where you should look for internship, TA, RA, and other opportunities. Ask for contacts, "Who do you know who does X?"
- **Learn how to take a problem and follow it all the way through**, as opposed to thinking that bite-size homework problems reflect the real world. Although recent grads have technical skills and can apply them, the #1 complaint of employers is a lack of problem solving.
- A research opportunity from start to finish teaches students to solve problems and are recommended for all students, regardless of whether they want to go into industry, teaching, research, government, or non-profit sectors.
- TA opportunities and theory classes also teach problem-solving.
- **Be OK sitting with uncertainty.** Not everything has to come easily or quickly.
- **Develop vital skills outside your classes**, such as empathy, humility, respect for others, ethical decision-making, communication, teamwork, diligence, and curiosity. Be a good human.