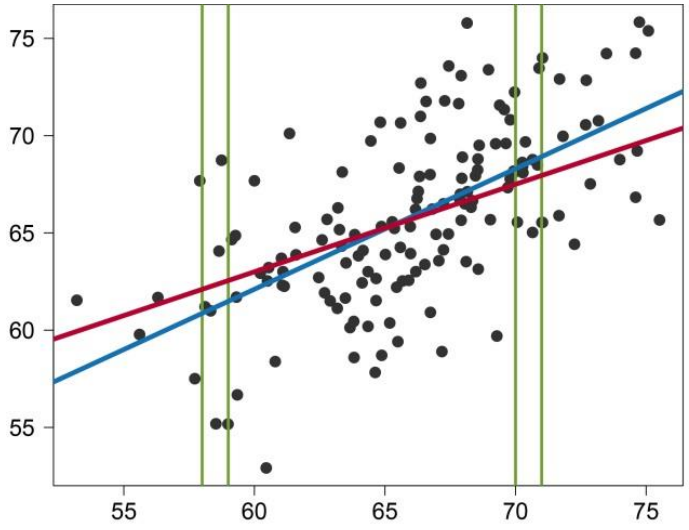
Welcome to the

Statistics Major
Biostatistics Emphasis

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

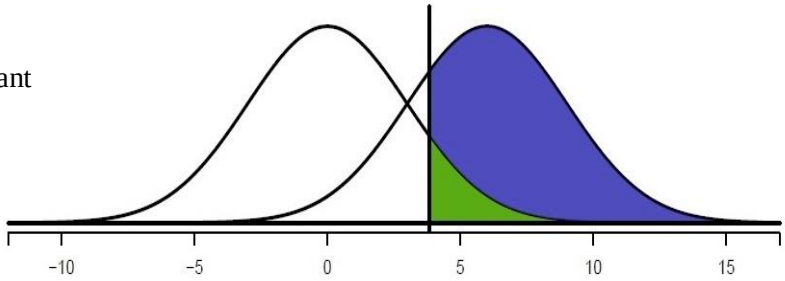


Undergraduate Department Advisor – Kimri Mansfield
- Email: kmansfield@stat.byu.edu
- Phone: 801-422-4506
- Office: WVB 2152D

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

Learning outcomes can be found here: https://learningoutcomes.byu.edu/Courses/program-courses/695233/Statistics+BS+Biostatistics/1329

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 Statistics: Biostatistics Emphasis

Requirements / Prerequisites

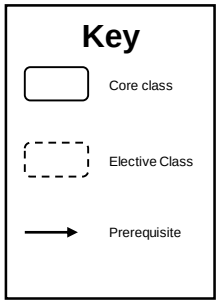
2026-2027 Academic Year

Major (55 Hours)

1. Complete Stats 121 and 130.
2. Complete the following courses: Stat 230, Stat 240, Stat 330, Stat 340, Stat 390, Stat 430.
3. Complete the following courses: Math 112 and 113, 213, 215.
4. Complete 3 hours from the following: CS 110, CS 111, Hlth 440, IS 520, Stat 286.
5. Complete the following course: Math 314.
6. Complete 3 hours from the following: Stat 437 or Stat 538.
7. Complete 6 Elective hours from the following (Courses filling requirement 7 will not double count with requirement 6, 8, or 9): Bio 350, Cell 120, Cell 305, Chem 105, Chem 111, Hlth 345, Mmbio 240, PWS 340, Stat 437, Stat 538.
8. Complete 3 elective hours from the following (Courses filling requirement 8 will not double count with requirement 6, 7, or 9): Stat 234, Stat 251, Stat 274, Stat 281, Stat 286, Stat 381, Stat 386, Stat 435, Stat 437, Stat 448, Stat 451, Stat 466, Stat 469, Stat 482, Stat 483, Stat 486, Stat 487, Stat 495R, Stat 531, Stat 538.
9. Complete 6 elective hours from the following (Courses filling requirement 9 will not double count with requirement 6, 7, or 8): Hlth 345, Math 341, Math 342, Stat 234, Stat 251, Stat 274, Stat 281, Stat 286, Stat 381, Stat 386, Stat 395R, Stat 435, Stat 437, Stat 448, Stat 451, Stat 466, Stat 469, Stat 482, Stat 483, Stat 486, Stat 487, Stat 495R, Stat 496R*, Stat 497R*, Stat 531, Stat 538.
10. *No more than 3 combined credit hours of Stat 496R, or Stat 497R may be counted toward this requirement.

Minor (18-20 Hours)

1. Complete one of the following: Stat 121, or Stat 201.
2. Complete one of the following: Stat 230.
3. Complete: Math 112 and Stat 330 or CS 111 and Stat 220, or IS 303 and Stat 220.
4. Complete one of the following: Stat 234, Stat 240, Stat, 281, Stat 286, Stat 386, Stat 448..
5. Complete one course from the following: Bio 264, CS 270, Econ 388, Fin 400, Geog 322, GSCM 412, HLTH 313, IS 302, IS 315, IS 355, MKTG 411, MSB 325, PHSCS 383, POLI 300, PSYCH 308, PWS 274, Stat 234, Stat 240, Stat 250, Stat 251, Stat 281, Stat 286, Stat 340, Stat 381, Stat 386, Stat 448, Stat 486, Stat 487, STRAT 412.



CORE

Freshman

Math 112 Calculus 1 FWSS, S-S

Stat 130 F1F2W1W2

Stat 121 FWSp, S-S

Math 113 Calculus 2 FWSS, S-S

Stat 230 FWSp

Sophomore

Math 213 & Math 215 FWSS

Stat 330 FW

Statistics Elective (Choose below—Cell 120 preferred)

Stat 240 FWSp

Three credits from the following: CS 110 (FWSp), CS 111 (FWSp), HLTH 440 (FW), IS 520 (FW), Stat 286 (Stat 250-FW)

Math 314 FWSS

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

Junior

Stat 340 FW

Statistics Elective (Choose below)

Statistics Elective (Choose below)

Stat 390 Pre-Req: Stat 330 FW

Statistics Elective (Choose below)

Complete either Stat 437 (W) or 538 (F)

Stat 430 Pre-req: Stat 330 & Math 213 FW (only winter this year)

Statistics Elective (Choose below)

Senior

Choose 6 Credit Hours of Electives Requirement 9

Choose 6 Credit Hours of Electives Requirement 7

Bio 350 Pre-req: Cell 120 or Bio 130 or MMBio 121 FW

Cell 120 FWSp

Cell 305 Pre-Req: Cell 210 or 220; Chem 101 or equiv. FWSp

Chem 105 Pre-Req: Math 110 FWSS

Chem 111 Pre-Req: Math 110 F

Hlth 345 Pre-Req: HLTH 313 W

MMBIO 240 Pre-Req: Bio 130, or Cell 120 or MmBIO 121 FWSp

PWS 340 Pre-Req: MMBIO 240, Chem 481, or Chem 381, FW

Stat 437 Pre-Req: Stat 330 & Stat 340 W

Stat 538 Pre-Req: Stat 330 & Stat 340 F

Choose 3 Credit Hours of Electives Requirement 8

Choose any class from Requirement 9 except Hlth 345, Math 341, Math 342, Stat 395R, Stat 496R, Stat 497R

*Note: No more than 3 credit hours of Stat 496R or Stat 497R may be counted toward this major.

Hlth 345 Pre-req: Hlth 313 W

Math 341 Pre-Req: Math 113 & Math 290 FWSu

Math 342 Pre-Req: Math 213 & Math 314, & Math 341 FW

Stat 234 Pre-Req: Stat 121, or 201 F

Stat 251 Pre-Req: Stat 240, Stat 250, Math 113 FW

Stat 274 Pre-Req: Math 112 FW

Stat 281 Pre-Req: Stat 121 or Stat 201 W

Stat 286 Pre-Req: Stat 230 FW

Stat 381 Pre-Req: Stat 223, Stat 224, & Stat 330 W

Stat 386 Pre-req: Stat 121 & CS 110 or 111 FW

Stat 395R Contact Department

Stat 435 Pre-Req: Stat 330 & Stat 340 Contact Department

Stat 437 Pre-Req: Stat 330, & Stat 340 W even years

Stat 448 Pre-Req: Stat 240, Stat 330, & Stat 250 W

Stat 451 Pre-Req: Stat 251 & 330, and 340 W

Stat 466 Pre-Req: Stat 251, Stat 330, & Stat 340 (not taught this year)

Stat 469 Pre-Req: Stat 330 & Stat 340 F

Stat 482 Pre-Req: Stat 286, Stat 330, Stat 340 Contact Department

Stat 483 Pre-Req: Stat 482 Contact Department

Stat 486 Pre-Req: Stat 330 & 340 & 386 FW

Stat 487 Pre-Req: Stat 330 & 340 & 386 or CS 270 F (not this year)

Stat 495R Pre-Req: None Taught: Contact Dept

Stat 496R Pre-Req: Dept. Consent (up to 3 hours) Taught: Contact Dept

Stat 497R Pre-Req: Dept. Consent (up to 3 hours) Taught: Contact Dept

Stat 531 Pre-Req: Stat 330, 340 & Math 213 F

Stat 538 Pre-Req: Stat 330 & Stat 340 F

Note: Courses only count once towards the major.

Guide only—please consult MyMAP for full requirements. Please note: When Taught is subject to change.

Updated 8/14/2026

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 Statistics

What Do Statisticians Do?

Statisticians look for patterns in data to help make decisions in business, industry, and the biological, physical, psychological, and social sciences. Statisticians help make important advances in scientific research and work in opinion polling, market research, survey management, data analysis, statistical experiments, and education. Statisticians use quantitative abilities, statistical knowledge, and computing and communication skills to collaborate with other scientists to work on challenging problems, including the following:

- Studying the safety and economic viability of nuclear power plants and alternative energy sources
- Evaluating the environmental impact of air, water, and soil pollution
- Designing and analyzing studies to determine the safety and effectiveness of new drugs
- Estimating the unemployment rate in the United States
- Analyzing consumer demand for products and services
- Planning studies for and analyzing data from agricultural experiments

Statisticians apply mathematical and statistical knowledge to social, economic, medical, political, and ecological problems. They work individually, but also as part of interdisciplinary teams on complex problems. Statisticians travel to consult with other professionals or to attend conferences, seminars, and continuing education activities. They communicate and confer with other professionals to understand practical problems and inform others of their solutions. Statisticians use data from well-designed trials and from massive databases to discover results about a particular problem in a variety of fields. They combine their technical training skills with the knowledge of the field within which they are working to produce valuable results.
Statisticians are at times educators, consultants, and theoretical researchers.

Business and Industry



Manufacturing -- Industrial statisticians help build products and deliver services that satisfy customers and increase the company's market share and profit margin. Statisticians help design the best product, guide the transition from design to manufacturing, ensure a consistently excellent product, help manage customer satisfaction, and ensure a financially beneficial bottom line. Industry professionals use statistical methods for quality control and quality assurance in nearly all manufactured goods.
Marketing -- Statistics is used to quantify the extent of variation in customers' needs and wants. Statisticians design experiments for new products, conduct focus groups and sample surveys to gather consumer feedback, and perform field experiments in test markets to determine product viability and marketability. Statistics and data mining are also used to analyze sales data and predict future trends.
Engineering -- Engineers work in electronics, chemicals, aerospace, pollution control, construction, and other industries. They may be responsible for leading large projects with significant costs, technical complexity, and responsibility. Statistical methods allow engineers to make a consistent product, detect problems, minimize chemical waste, and predict product life.
Statistical Computing -- Reliable and accurate statistical software is arguably the most important tool available to statisticians in every field. Developing code that is both user friendly and sufficiently complex is a challenging task, as is exploiting the rapidly occurring improvements in hardware platforms,

graphics, and algorithms. Opportunities in this field include software design and development, software testing, quality assurance, technical support, education, documentation, marketing, and sales.



Health and Medicine

Epidemiology -- Epidemiological statisticians work on projects such as calculating cancer incidence rates or the rates of chronic and infectious diseases, monitoring and reporting on disease outbreaks, and monitoring changes in health-related behaviors such as smoking and physical activity. Fields of practice include nutritional, environmental, genetic, and social epidemiology, as well as pharmacoepidemiology.

Public Health -- Public health statisticians work on preventing disease, prolonging life, and promoting health through organized community efforts. These include sanitation, control of contagious infections, hygiene education, early diagnosis and preventive treatment, and adequate living standards. This requires understanding of epidemiology, nutrition, antiseptic practices, and social science. In the United States, public health is studied and coordinated on a national level by the Centers for Disease Control and Prevention; internationally, the World Health Organization plays an equivalent role.

Pharmaceutical Science -- Statisticians in pharmacology work in pharmaceuticals, animal health, and government research. They are key to all aspects of drug discovery, development, approval, and marketing. They work in pre-clinical research, clinical trials, epidemiology, health economics, and market research. Statisticians are essential in the drug development process because they ensure the validity and accuracy of findings at all stages of the process.

Statistical Genetics -- Statistics has been used in human genetics to create automated methods of labeling possible indicators of genetic abnormalities, such as birth defects and early aging. Statistics has also been used in animal and plant genetics to breed desirable characteristics in offspring. Using complex statistical models, statisticians aid in formulating sound decisions by distinguishing between environmental and genetic effects.

Learning

Education -- Education is one of the country's biggest industries and the tasks that the educational statistician can choose to undertake are diverse. Statisticians teach students from kindergarten through doctoral programs. They may help assess teacher effectiveness, analyze a large database to understand a particular issue, or develop better statistical models to represent the amount of learning attained by one student or by all students in a school district, state, or nation.

Science Writing and Journalism -- Science writers are employed by the mass media, universities, and corporations to produce news briefs, articles, news releases, and other reports. Writers with scientific backgrounds are especially in demand because of their ability to explain complicated statistical or scientific data in easy-to-understand articles for non-statisticians and the general public.

Research

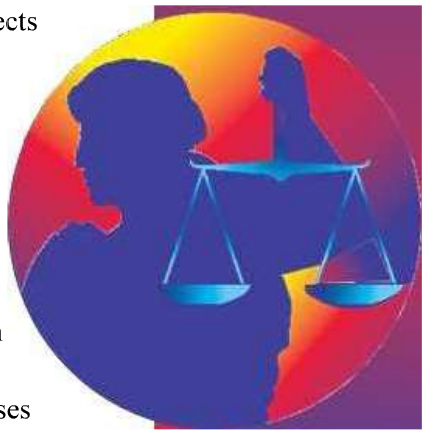
Government -- Statistical methods are used in government regulation on topics such as stock trading rules, air purity standards, and new drug approvals. Statistics are cited in court proceedings, congressional hearings, and lobbying arguments. Politics involves statistics in the form of approval rating surveys, voter registration, campaigning, and election predictions. Statisticians participate in government agencies such as the Food and Drug Administration, the Census Bureau, the Bureau of Labor Statistics, the Office of Management and Budget, the Bureau of Transportation Statistics, the National Institutes of Health, and the Department of Agriculture. Federal agencies provide data that are used in making federal, state, and

local government policies.

Survey Methods -- Statisticians work on surveys in government, the social sciences, education, law, forestry, agriculture, biology, medicine, business, and e-commerce. Survey statisticians might study efficient survey design, experimental methods for increasing response rates, accounting for nonresponse and under-coverage, or how to release data to the public while maintaining the confidentiality of respondents. Other important issues include question wording and design and deciding where and how to take samples that will include traditionally underrepresented groups.

Research and Development – Whether in developing new computing technology or designing a better consumer product, statisticians work in all sectors of industry to identify sources of variability and increase the reliability of products and technology using experimental design, statistical analysis, and continuous improvement tools.

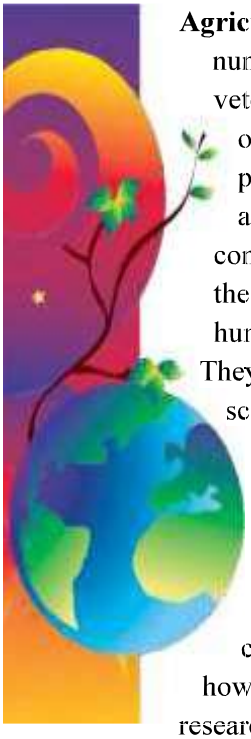
Social Sciences



Consulting -- Independent statistical consultants work on many of the same projects as other statisticians, but they usually are hired on a temporary basis to solve a specific problem that requires statistical expertise not available within the hiring company. Since the field of statistics is so broad, many statistical consultants specialize in some area, such as quality improvement or pharmaceuticals. Consultants may be hired with grant money to work on short-term projects in medicine, agriculture, engineering, or business.

Law -- Statistics are becoming more and more important as court cases address increasingly complex problems. Sometimes the statistician analyzes data that can help the jury or judge decide whether someone is guilty of a crime or must pay damages for causing injuries. Other times, statisticians are hired as expert witnesses during trials. Court cases involving statistical analyses include DNA testing, salary discrepancies, consumer surveys, and disease clusters.

Natural Resources



Agriculture -- Statisticians have teamed up with experts in agriculture in order to study a number of challenging questions, including chemical pesticides, hydrogeology, veterinary sciences, genetics, and crop management. Precision agriculture is the practice of using statistical models to optimize agricultural inputs such as fertilizer or pesticides, to maximize yield and minimize negative ecological impact. Statisticians are involved in studies ranging from small laboratory experiments to large projects conducted over many hundreds or thousands of square miles. They work on data from the smallest scale of organisms, like viruses and bacteria, to plants, insects, animals, and humans.

They work with scientists from fields such as bacteriology, genetics, biochemistry, dairy science, environmental studies, entomology, plant sciences, rural sociology, veterinary medicine, wildlife, and ecology.

Ecology -- Statisticians play a major role in addressing questions about the earth's natural environment, including animal populations, agricultural protections, fertilizer, and pesticide safety. Most states employ wildlife statisticians. Statisticians are employed by state and federal environmental agencies as well as companies that collect environmental data. Increasingly, companies need statisticians to help assess how a new product or plant will affect the surrounding environment. Scientific researchers also work with statisticians, often at universities, to design experiments that will answer basic questions about the environment.

Resources

Weekly Emails
Sign up for weekly emails advertising available internship opportunities at career.placement@stat.byu.edu.
Handshake
http://handshake.byu.edu/
American Statistical Association
https://www.amstat.org/
Jobs in Statistics
http://jobs.amstat.org/
Salary Reports
https://www.amstat.org/ASA/Your-Career/Salary-Information.aspx

"Careers in Statistics: Possibilities and Opportunities" –animated PowerPoint slide show that provides an overview of the field of statistics and highlights the opportunities available to those who become statisticians *(https://www.worldofstatistics.org/statistics-as-a-career/careers-in-statistics/)*
Careers in Statistics issue of *Amstat News* –annual September issue including biographies of famous statisticians, career advice, and "Day in the Life" articles of current practicing statisticians
"Career Corner" articles in *Amstat News* –monthly articles highlighting a topic of importance to students of statistics and young statisticians

How to Become a Statistician?

Education and Training

Statisticians typically study statistics, mathematics, and/or some related field of statistical application. More and more opportunities are available for statisticians with bachelor's degrees. Many jobs, however, require either a master's degree or doctorate. Continuing education is available through the American Statistical Association at events like the Joint Statistical Meetings and traveling "LearnSTAT" courses. Employers often encourage, or even require, their employees to earn continuing education credits.

Skills

Statisticians often develop skills in a particular field of study, such as medicine, public policy, economics, biology, psychology, or agriculture. Language and communication skills are important because statisticians must convey the results of their investigations in oral and/or written reports. The ability to explain findings clearly and concisely is essential and requires knowledge of grammar and comprehensive writing skills.

Employment Prospects

The demand for statisticians is currently high and is growing. According to the Occupational Outlook Handbook, published by the Bureau of Labor Statistics, the overall employment of mathematicians and statisticians is expected to grow 33% from 2016 to 2026, much faster than the average for all occupations. Furthermore, colleges and universities will be hiring more and more faculty members in statistical fields. Salaries and opportunities for advancement are competitive and reflect the current demand.