

Educational Level Implications on Careers in Statistics (ELICS) for undergraduate students

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Overview of Lesson

This career survey course activity is designed to expose undergraduate students to the implications for education level choice and help them plot an educational course that aligns with their work goals. After performing this activity, students will understand how to find and evaluate salary data and job requirements. This will lead to students gaining skills to assess job postings in terms of the alignment of their skills and education with a career/job posting. This in turn may lead to a prevention of over or under education (exiting college and entering the job market without a matching degree level needed for the jobs of interest) as students will be able to make informed decisions. A research study of undergraduate students in statistics classes was conducted using this lesson plan framework, and 18% of students changed their final degree plan^{1,2}.

Since each student will be headed into their own branch of statistics and type of employer, this learning concept is presented as a research activity for students to undertake independently or in small groups. Students will either have a career already in mind that they would like to explore or may choose a statistical career as listed on the Bureau of Labor Statistics (BLS) site. Students will create slides or a video presenting their findings. Assessment is based on the student's ability to synthesize and present their findings from the activity including their knowledge of job requirements (especially the necessary education and skills) and salary expectations.

Type of Data

- More than 2 variables
- Data generated by students + publicly available data

Learning Objectives

After this lesson, students should be able to:

- Identify job listings, and describe salary data and job requirements.
- Compare and summarize salary data and job requirements between listings.
- Appraise their own expectations of salary and alignments of skills, education, etc. for their future career.
- Create or modify college plans as necessary to align with career and life goals.

Audience

- *General:* Undergraduate students in statistics courses.
- *Different levels:* This learning concept is presented as a research activity for students to undertake independently. Students who do not intend to enter the field of statistics may choose a statistical role or have one assigned by the instructor.
- *Prerequisites:* Prior to this lesson, students should have internet access and experience with web searches and knowledge synthesis.

Instructor Time Required

This project is presented at two levels, depending on the career search savviness of students at your institution. See the Suggested Variations or Extensions section at the end of this document for additional ideas.

More intensive preparation:

- Appropriate for: Most undergraduate statistics classrooms
- Classroom time:
 - 1 classroom session:
 - Introduce the activity in class.
 - Career center presentation on job searches or watch the three listed videos
 - Walk through an example career, to help the students learn how to look for these job postings and the relevant information.
 - Assign a statistical field/career to students if desired.
 - 0-2 classroom sessions:
 - Presentations of student findings
- Outside of classroom instructor time:
 - 5-10 minutes per student:
 - Grading based on impressions taken from the activity, and level of effort displayed.

Less intensive preparation:

- Appropriate for: Graduate students or adult career changers who have already performed multiple job searches, majors-only advanced level courses where most students already have had internships, very independent students, or when less classroom time is available.
 - Unless your organization has a strong career center outreach early in the undergraduate years, it is generally anticipated that most early undergraduate students will benefit most from the version with more intensive background preparation.
- Classroom time:
 - 0-5 minutes:
 - Introduce the activity in class.
 - Assign a statistical field/career to students if desired.
 - 0-2 classroom sessions:
 - Presentations of student findings, if desired
- Outside of classroom instructor time:
 - 5-10 minutes per student:
 - Grading based on impressions taken from the activity, and level of effort displayed.

Technology and Other Materials

- *Technology*: Internet access, internet browser, Word-type and/or PowerPoint-type software.

Lesson Plan

In the statistical industry, it was the personal observation of a principal biostatistician involved in interviewing and early- and mid-career mentoring that too many new employees arrive not understanding what their educational level and job title implicate for the work they will be doing. Some arrive over-credentialed for the work they want to do, having spent unnecessary time and money pursuing one or more graduate degrees. Some apply to jobs they are over-qualified for, not realizing that at that institution there is no immediate opportunity nor promotion path into the daily activities that they find most rewarding. And finally, some stop at a lower education level, and would need to pursue additional education before they can step into the roles they would like best. When students continue their education to the level that best aligns with their desired life goals, then students may better achieve their career and happiness outcomes. Adding an activity that highlights stopping education level implication exploration to the undergraduate education experience could guide students into education/job alignment.

In some fields such as medicine, it is well known that being a doctor requires going to medical school and residency, and what that career and salary path looks like. For areas such as mathematics and statistics, the implications of continuing or stopping one's education are not as clearly laid out to students. At some employers, the work you are allowed to perform and political influence you are allowed to wield are dictated by your education level, not just your level of experience. Currently we observe students arriving to the field with a mismatch of education level and goals for their statistical work experience, as they were not advised as to the implications of their choices. Research on this misalignment is lacking in the United States but exists for Russia³ and the United Kingdom⁴. In the spring of 2025, a research study of United States undergraduate students in statistics or data science classes was conducted using this lesson plan framework showing that almost 1 in 5 students identified a different stopping degree level as appropriate for their career goals^{1,2}.

First Stage of the Lesson

To begin, the instructor should decide if their students need more help understanding job postings or if their students have some experience in finding jobs and reading job postings. If the former, follow the whole plan below. If the latter, you may skip showing the videos, having a career center presentation, and/or the given example of the process of finding job postings and other information.

Introduce the Activity

Introduce the statistical job investigation activity as follows and suggest statistical fields for students who need guidance about where to start (such as biostatistics, economic statistics, agricultural statistics, statistical education). Students will select a career to explore in depth. See the BLS List of Occupations: <https://data.bls.gov/oes/#/industry/000000> and <https://data.bls.gov/oesprofile/>

Instructions to give to the students:

- (Share the above two-paragraph lesson plan introduction with the students as motivational background.)

- Objective: Your task is to learn about a potential career/role that you could fill after graduation and assess your fit for that career including your final degree choice (bachelors, masters, doctorate). You will begin by selecting a statistical career to explore.
 - If you are not headed into a statistical field, suggested roles to research could be from fields including: biostatistics, economic statistics, agricultural statistics, or statistical education.
- First, select a career to explore.
- You may look at this list from the BLS to help you select a career: <https://data.bls.gov/oes/#!/industry/000000> and <https://data.bls.gov/oesprofile/>
- Next, find at least 5 online job postings for your selected career from potential employers in the field of statistics that you plan to pursue/explore.
 - These postings should be full time and have a title or description that falls in line with your chosen career.
 - Seasonal or fixed time (postings states that the job is only for say 2 years) positions are allowed.
 - If you wish to live in a specific area, you may do your research for that specific area.
 - Make sure to source/cite these postings.
- From these job postings and the BLS, compare the job descriptions on a multitude of fronts including:
 - Responsibilities and Duties
 - Type of work and what a day in the life of that role looks like (100% programming to 100% consultative)
 - Ability to design and conduct one's own research or projects of choice
 - Working with others
 - Salary/Pay
 - Starting mean and median salary (no experience, entry-level)
 - Mean and median salary with some experience
 - Using these values, create a table or a graph/chart.
 - Hours worked per week
 - Requirements
 - Education level needed
 - Experience needed, if any
 - Any certifications necessary?
 - Skills
 - Programming/coding experience needed?
 - If so, what programs?
 - Communication skills, team working skills, leadership skills, etc.
 - Benefits Available
 - Insurance options (medical, dental, vision, life), retirement options (401k matching), parental leave, paid time off, etc.
 - Location of Openings
 - Are there opportunities for remote work?
 - If you want to live in a specific area, are there opportunities?

- How does salary compare to the median housing price and cost of living in the location of that job? If remote, use the city/location you would plan to live.
- If possible, have students interact with a statistician or someone within the careers chosen.
 - One possibility is to have students interview a professional in a position of their chosen career.
 - Students may not know a professional in their chosen career, so this may depend on the instructor's network as well.
 - One might be able to reach out to alumni from their department, local businesses, or other communities.
 - This could be virtual as well as in person.
 - Another possibility is to have a professional, or a panel of professionals, come to class and speak about their positions followed by a Q&A session.
 - Again, this may depend on the instructor's network.
 - This could be virtual as well as in person.
- Synthesize and present your findings
 - Prepare a 5-10 minute presentation
 - Make sure to address/include the following:
 - Chosen career title
 - Responsibilities and duties
 - Salary and Benefits
 - Hours Worked
 - Education Level Needed
 - Skills Needed
 - Location of Openings and Cost of Living
 - Did this exploration inform or change your expectations on the chosen career?
 - Do you currently align with this career in terms of education and skills needed?
 - Job posting sources
- Recommended resources:
 - General job and salary expectations, <https://data.bls.gov/oes/#/industry/000000>
 - General job posting websites:
 - LinkedIn: <https://www.linkedin.com/>
 - Indeed: <https://www.indeed.com/>
 - Your institution's career center may grant you free access to a proprietary job board, like Handshake, <https://joinhandshake.com/>
 - Statistician-specific job posting websites (membership may be required), such as <https://jobs.amstat.org/>
 - Individual statistician-employing employer website job boards, such as <https://www.usajobs.gov/> or <https://jobs.mayoclinic.org/> .
 - Median housing price and cost of living in the city to be lived in
 - <https://www.redfin.com/us-housing-market>

- <https://www.forbes.com/advisor/mortgages/real-estate/cost-of-living-calculator/>

Preparing Students to Extract Information

For most students, an initial overview presentation on job searches will be required. This may be something your institution's career center would be happy to provide, or they may have a pre-prepared video that can be shown in class. If you do not have such institutional resources, here are three short job search video resources, in the recommended play order:

1. Colorado State University Career Center's finding a job overview 2 minute video, https://www.youtube.com/watch?v=pUiNtqX_5MI
2. UC Davis Career Center's 3 minute video on reading a job posting, <https://www.youtube.com/watch?v=fADpJHGbLNI>
3. Texas A&M Career Center's 5 minute video on how to think about a job posting's fit for you, <https://www.youtube.com/watch?v=9OdnsdJrMNE>

The instructor can also walk the class through the attached example to demonstrate to the students how to look for these job postings and extract the relevant information.

Actuary Example

From BLS <https://data.bls.gov/oesprofile/>:

- Major occupational group menu: Select Computer and Mathematical Occupations
- Detailed Occupations menu: Select Actuaries
- Measures menu:
 - Employment gives industries and locations with the highest employment frequency.
 - Annual mean wage gives mean salary information per industry or per location with the highest wages.
 - Annual median wage gives median salary information per industry or per location with the highest wages.
 - All selections give general wage information.
- Display menu: If you want more than the top 5 results to be shown for the results separated by industry or location, you can select 10 or 15.
- Click the Search button.

BLS Employment Results:

15-2011 Actuaries

Analyze statistical data, such as mortality, accident, sickness, disability, and retirement rates and construct probability tables to forecast risk and liability for payment of future benefits. May ascertain insurance rates required and cash reserves necessary to ensure payment of future benefits.

National estimates for actuaries

Employment	Employment Relative Standard Error	Mean Hourly Wage	Mean Annual Wage	Wage Relative Standard Error
28,340	3.6 %	\$64.9	\$134,990	2.2 %

Percentile	10%	25%	50%	75%	90%
Hourly Wage	\$36.18	\$43.73	\$60.47	\$79.26	\$99.24
Annual Wage	\$75,240	\$90,970	\$125,770	\$164,860	\$206,430

States with the highest employment for actuaries

State	Employment	Relative Standard Error (RSE)
New York	3,090	9.6
Illinois	2,120	15.6
Pennsylvania	1,980	9.2
Texas	1,800	9.7
Florida	1,740	15.1


Metropolitan / nonmetropolitan areas with the highest employment for actuaries

Metropolitan / nonmetropolitan area	Employment	Relative Standard Error (RSE)
New York-Newark-Jersey City, NY-NJ	3,160	8.7
Chicago-Naperville-Elgin, IL-IN	1,390	15.8
Boston-Cambridge-Newton, MA-NH	980	8.6
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	910	12.1
Hartford-West Hartford-East Hartford, CT	810	6.2

From these results, we can see some general measures for salary and locations of the highest frequency of employment for actuaries.

From Indeed:

The term “actuary” was searched with the location of Indiana on 7/8/2025. Indiana was chosen to show an example where a student may want to live in a specific area. Any state or city may be chosen. If no specific area is desired, students may leave that field blank to search broadly.


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Pay

Remote

Company

Job Type

Employer/Recruiter

Location

Experience level

Education

Encouraged to apply

Date posted

Nine jobs resulted as shown below, but some were not actuarial positions which gives a nice talking point about search terms not necessarily leading to the position one would want. For example, the reason Business Information Consultant – Provide Economics results is that a BS/BA degree in Actuarial Sciences is preferred but this position is not an actuarial position (no actuarial exams needed).

Hiring multiple candidates

Actuary - AI Trainer

DataAnnotation
 Remote in South Bend, IN

From \$40 an hour

Full-time +1

1 to 40 hours per week

Hiring ongoing


Often responds within 1 day

Life Actuarial Analyst

Indiana Farm Bureau Insurance
 Hybrid work in Indianapolis, IN 46202

Pay information not provided

Full-time

 Easily apply

CSV ENGINEER

Réalta Technologies (RT)
Indianapolis, IN

Pay information not provided

Full-time

Finance and Actuarial Data Manager

PRICE WATERHOUSE COOPERS
Indianapolis, IN 46204 (Downtown area)

\$99,000 - \$232,000 a year

401(k) Health insurance Vision insurance

Dental insurance Paid holidays

Associate Actuary - Value-Based Care

Humana
Remote in Indiana

\$106,900 - \$147,000 a year

Full-time Paid parental leave Parental leave 401(k)

Health insurance Paid time off Vision insurance

P&C Actuary Advisor - Seasonal

Deloitte
Indianapolis, IN 46204 (Downtown area)

\$125 - \$155 an hour

Full-time

P&C Actuary Manager

Deloitte
Indianapolis, IN 46204 (Downtown area)

\$137,400 - \$253,000 a year

Full-time

Often responds within 1 day

Business Information Consultant - Provider Economics

Elevance Health
Hybrid work in Indianapolis, IN 46204

Pay information not provided

Employee stock purchase plan Health insurance

401(k) matching Paid time off Vision insurance

Lead Director, Medicare Actuarial Analytics and Actuarial Data Science

CVS Health
Remote in Indianapolis, IN 46225

\$144,200 - \$288,400 a year

Full-time Tuition reimbursement


Employee stock purchase plan Health insurance

To complete the assignment, we would focus on the following job listings from the results that have a requirement of at least one actuarial exam needing to be passed:

- Life Actuarial Analyst
- Associate Actuary – Value-Based Care
- P&C Actuary Advisor – Seasonal
- P&C Actuary Manager
- Lead Director, Medicare Actuarial Analytics and Actuarial Data Science

The first listing is fairly sparse giving a brief list of responsibilities and no idea of the benefits or salary available. However, it does give an idea that not all postings will be clear and may not give all the wanted information (such as this one missing salary information).

Life Actuarial Analyst

Indiana Farm Bureau Insurance  • 3.6 ★

Indianapolis, IN 46202 • Hybrid work

Full-time

Job details



Job type

Full-time



Work setting

Hybrid work

Full job description

Primary Responsibilities:

- Assisting with pricing and product development.
- Assisting with valuations and financial reporting.
- Developing actuarial modeling.
- Developing financial projections and analysis.

Requirements:

- Bachelor's Degree in actuarial sciences, mathematics, statistics, or related field preferred.
- 0-2 years of experience in insurance and 1-3 actuarial exams passed.
- Demonstrated ability to develop technical skills, specifically AXIS actuarial software platform.
- Working knowledge of Excel and other Microsoft Office products.
- Working knowledge of Life insurance actuarial pricing, valuation, or financial projections/modeling.
- Strong communication and collaboration skills.
- Ability to solve problems efficiently.

Education

Preferred

- Bachelors or better

The second listing has many more details and descriptions. This posting gives lots of information about the position and even information about the company itself.

Associate Actuary - Value-Based Care

Humana  • 3.6 ★

Indiana • Remote

\$106,900 - \$147,000 a year - Full-time

You must create an Indeed account before continuing to the company website to apply

Job details



Pay

\$106,900 - \$147,000 a year



Job type

Full-time



Work setting

Remote

Benefits

Pulled from the full job description

- Life insurance
- Vision insurance
- Dental insurance
- 401(k)
- Health insurance
- Paid time off
- Disability insurance
- Paid parental leave
- Caregiver leave
- Paid holidays
- Parental leave
- Volunteer time off

Full job description

Become a part of our caring community and help us put health first

The Associate Actuary, Analytics/Forecasting analyzes and forecasts financial, economic, and other data to provide accurate and timely information for strategic and operational decisions. Establishes metrics, provides data analyses, and works directly to support business intelligence. Evaluates industry, economic, financial, and market trends to forecast the organization's short, medium and long-term financial and competitive position. The Associate Actuary, Analytics/Forecasting work assignments involve moderately complex to complex issues where the analysis of situations or data requires an in-depth evaluation of variable factors.

The Value-Based Care Infrastructure Associate Actuary will play a crucial role in supporting the design, implementation, and management of vended complex value-based care initiatives. This position will focus on contracting, implementation, data analysis, and actuarial modeling of value-based care performance expectations. The Associate Actuary will collaborate with cross-functional teams to ensure alignment with organizational goals in value-based care.

The Associate Actuary, Analytics/Forecasting ensures data integrity by developing and executing necessary processes and controls around the flow of data. Collaborates with stakeholders to understand business needs/issues, troubleshoots problems, conducts root cause analysis, and develops cost effective resolutions for data anomalies. Begins to influence department's strategy. Makes decisions on moderately complex to complex issues regarding technical approach for project components, and work is performed without direction. Exercises considerable latitude in determining objectives and approaches to assignments.

Use your skills to make an impact

Required Qualifications

- Bachelor's Degree
- Associate of Society of Actuaries (ASA) designation
- MAAA
- Strong communication skills
- Successful completion of at least 3 actuarial exams
- Must be passionate about contributing to an organization focused on continuously improving consumer experiences

Preferred Qualifications

- Experience with complex value-based arrangements
- Experience with opportunity analysis
- Experience in modeling forecasting scenarios

Travel: While this is a remote position, occasional travel to Humana's offices for training or meetings may be required.

Scheduled Weekly Hours

40

Pay Range

The compensation range below reflects a good faith estimate of starting base pay for full time (40 hours per week) employment at the time of posting. The pay range may be higher or lower based on geographic location and individual pay will vary based on demonstrated job related skills, knowledge, experience, education, certifications, etc.

\$106,900 - \$147,000 per year

This job is eligible for a bonus incentive plan. This incentive opportunity is based upon company and/or individual performance.

Description of Benefits

Humana, Inc. and its affiliated subsidiaries (collectively, "Humana") offers competitive benefits that support whole-person well-being. Associate benefits are designed to encourage personal wellness and smart healthcare decisions for you and your family while also knowing your life extends outside of work. Among our benefits, Humana provides medical, dental and vision benefits, 401(k) retirement savings plan, time off (including paid time off, company and personal holidays, volunteer time off, paid parental and caregiver leave), short-term and long-term disability, life insurance and many other opportunities.

Application Deadline: 07-13-2025

About us

Humana Inc. (NYSE: HUM) is committed to putting health first – for our teammates, our customers and our company. Through our Humana insurance services and CenterWell healthcare services, we make it easier for the millions of people we serve to achieve their best health – delivering the care and service they need, when they need it. These efforts are leading to a better quality of life for people with Medicare, Medicaid, families, individuals, military service personnel, and communities at large.

Second Stage of the Lesson

Outside of class, students will be collecting the necessary information about their chosen career and then creating a 5-10 minute presentation or video. This final product should include summarized information about the job requirements and duties, salary and benefits, hours works, education and skills needed, locations available along with cost of living, and implications for their own educational path. Instructors support their students by answering any questions and pointing students to resources.

Third Stage of the Lesson

- Students either present in class or submit their slides/videos to be viewed by the instructor.
- Instructors grade and provide feedback on the student presentations/videos.

Reflections and Additional Recommendations

Previous Implementation:

From previous implementations of this lesson plan, students had previous experience with job postings and thus used a 50-minute class meeting to work on their explorations. Most students were able to nearly complete a written summary by the end of the class period. Some students had previously explored their selected career, aiding in their quickness to complete the assignment. Others chose a new career and thoroughly explored it since it was of interest to them. Students understood the instructions clearly and were generally creative in researching their careers making connections to the real-world and their futures. Students who selected similar careers were allowed to discuss the career, although they still needed to complete their own research. Students were actively engaged and happy to discuss their career selections and why they made that choice. Students achieved the learning objectives and demonstrated ownership of learning while sparking curiosity.

Suggested Extensions or Variations:

- Students may work in groups if they select similar careers or if students are headed into similar fields of statistics (e.g. biostatistics, economic statistics, agricultural statistics, statistical education).
- Statisticians in the field:
 - If feasible, during the introductory classroom session, have 1 or more statisticians come to speak in the classroom (in person or virtually), overall or in small groups. This depends on the instructor's network and available class time.
 - If feasible, have students contact 1-5 statisticians in their chosen career outside of the classroom session, to do an informational interview with them to inquire about the educational implications on their roles at their current employer, and any prior employers. If the instructor has any standing volunteers in industry who would be willing to talk to students, they could be listed.

- This assignment can be implemented in a more general class where students are allowed to explore any career, not just statistical careers, and in that way may also be easily adaptable to a high school classroom. This allows students to explore a diverse set of careers and interests. This lesson plan is easily adaptable to that diverse setting with minimal changes.
- This lesson plan could also follow the BOPPPS framework which includes the following steps with suggested implementation:
 - Bridge: An introduction is given in this lesson plan, but to be more creative, one could select a career and have a list of information about that career. These aspects of the career are listed on a piece of paper and put into a bowl. Draw pieces of paper from the bowl and read it aloud and write it on the board. The goal of the activity is to guess the career based on these aspects.
 - Objective: When describing the assignment, state that the goal is to learn about the requirements for their future career. Emphasize that this is to help their personal goals, plans, and future.
 - Pre-assessment: Give an entry survey or take a live (anonymous) poll that asks if they have a career in mind for their future, if they have ever viewed a job posting or explored future careers, if they know someone with a career they'd like to explore, their expected salary after graduation, the education level they plan to obtain, etc.
 - Participatory learning: Have students who have similar career interests work together on the assignment with the requirement that they view different job postings and then collectively summarize their findings or at least compare their findings.
 - Post-assessment: Give an exit survey that mirrors the entry survey. Alternatively, show a few job postings and have students extract the same information as the assignment to give a couple statements about that type of career.
 - Summary: This would be the final result where students present their findings via slides or a video.

Attached Materials

- Example assignment
 - Ready for printing/distribution or easy editing by instructors. Possible additions include interviewing of professionals in the field, and revisions include type of end product.
- Rubric for grading assignment

Example Assignment

Background:

In fields such as medicine, it is well known that being a doctor requires going to medical school and residency, and what that career and salary path looks like. For areas such as mathematics and statistics, the implications of continuing or stopping one's education are not as clearly laid out to students. At some employers, the work you are allowed to perform and political influence you are allowed to wield are dictated by your education level, not just your level of experience.

In the statistical industry, new employees are joining the workforce with an educational level that doesn't match the work they want to be doing. Some arrive over-credentialed for the work they want to do, having spent unnecessary time and money pursuing one or more graduate degrees. Some apply to jobs they are over-qualified for, not realizing that at that institution there is no immediate opportunity nor promotion path into the daily activities that they find most rewarding. And finally, some stop at a lower education level and would need to pursue additional education before they can step into the roles they would like best. When students continue their education to the level that best aligns with their desired life goals, then students may better achieve their career and happiness outcomes. A research study of undergraduate students in statistics classes was conducted using this lesson plan framework, and almost 1 in 5 identified a different stopping degree level than their initial plan as appropriate for their career goals.

This activity highlights what happens if you stop at a bachelors, masters, or PhD degree, and about understanding job descriptions, to guide you into education vs job alignment.

Career Exploration Directions:

This assignment will allow you to explore a career within your selected field. You may already have an idea of which career you'd like to pursue, in which case you may explore that specific career. If you do not have a specific career in mind, you may select a role from this list of statistical fields (biostatistics, economic statistics, agricultural statistics, statistical education).

To learn about the selected career, you will explore at least 5 job postings and the Bureau of Labor Statistics (BLS). Then, you will write a 1-2 page summary with full sentences in paragraph form addressing the following.

Objective: Your task is to learn about a potential career/role that you could fill after graduation and assess your fit for that career including your final degree choice (bachelors, masters, doctorate). You will begin by selecting a statistical career to explore. If you are not headed into a statistical field, suggested roles to research could be from fields including: biostatistics, economic statistics, agricultural statistics, or statistical education.

- First, select a career to explore.
 - You may look at this list from the BLS to help you select a career:
<https://data.bls.gov/oes/#!/industry/000000> and <https://data.bls.gov/oesprofile/>
- Next, find at least 5 online job postings for your selected career from potential employers in the field of statistics that you plan to pursue/explore.

- These postings should be full time and have a title or description that falls in line with your chosen career.
 - Seasonal or fixed time (postings states that the job is only for say 2 years) positions are allowed.
- If you wish to live in a specific area, you may do your research for that specific area.
- Make sure to source/cite these postings.
- From these job postings and the BLS, compare the job descriptions on a multitude of fronts including:
 - Responsibilities and Duties
 - Type of work and what a day in the life of that role looks like (100% programming to 100% consultative)
 - Ability to design and conduct one's own research or projects of choice
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 - Starting mean and median salary (no experience, entry-level)
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 - Using these values, create a table or a graph/chart.
 - Hours worked per week
 - Requirements
 - Education level needed
 - Experience needed, if any
 - Any certifications necessary?
 - Skills
 - Programming/coding experience needed?
 - If so, what programs?
 - Communication skills, team working skills, leadership skills, etc.
 - Benefits Available
 - Insurance options (medical, dental, vision, life), retirement options (401k matching), parental leave, paid time off, etc.
 - Location of Openings
 - Are there opportunities for remote work?
 - If you want to live in a specific area, are there opportunities?
 - How does salary compare to the median housing price and cost of living in the location of that job? If remote, use the city/location you would plan to live.
- Synthesize and present your findings
 - Prepare a 5-10 minute presentation/video
 - Make sure to address/include the following:
 - Chosen career title
 - Responsibilities and duties
 - Salary and Benefits
 - Hours Worked
 - Education Level Needed
 - Skills Needed

- Location of Openings and Cost of Living
 - (optional) If you know someone in the role, what is their best advice?
 - Did this exploration inform or change your expectations on the chosen career?
 - Do you currently align with this career in terms of education and skills needed?
 - Job posting sources
- Recommended resources:
 - General job and salary expectations, <https://data.bls.gov/oes/#/industry/000000> and <https://data.bls.gov/oesprofile/>
 - General job posting websites:
 - LinkedIn: <https://www.linkedin.com/>
 - Indeed: <https://www.indeed.com/>
 - Your institution's career center may grant you free access to a proprietary job board, like Handshake, <https://joinhandshake.com/>
 - Statistician-specific job posting websites (membership may be required), such as <https://jobs.amstat.org/>
 - Individual statistician-employing employer website job boards, such <https://www.usajobs.gov/> or <https://jobs.mayoclinic.org/> .
 - Median housing price and cost of living in the city to be lived in
 - <https://www.redfin.com/us-housing-market>
 - <https://www.forbes.com/advisor/mortgages/real-estate/cost-of-living-calculator/>

Rubric:

Total Points: 10

Category	Novice: 0pts	Competent: 0.5pts	Proficient: 1pt
Job Responsibilities and Duties	None given.	Unclear, incorrect, or incomplete responsibilities/duties given.	Responsibilities/duties are clearly, correctly, and fully given.
Required Qualifications: Education	None given.	Unclear, incorrect, or incomplete education level needed given.	Education level needed is clearly, correctly, and fully given.
Required Qualifications: Experience	None given.	Unclear, incorrect, or incomplete experience level needed given.	Experience level needed is clearly, correctly, and fully given.
Required Qualifications: Skills	None given.	Unclear, incorrect, or incomplete skills needed given.	Skills for the position are clearly, correctly, and fully given.
Benefits Available	None given.	Unclear, incorrect, or incomplete benefits discussed.	Benefits available are clearly, correctly, and fully discussed.
Expected Salary/Pay	None given.	Unclear, incorrect, or incomplete salary expectations given. OR some salaries are not given such as those for entry level positions.	Salary expectations are clearly, correctly, and fully given. Mean and median salaries are given for both entry level and experience needed positions.
Location of Job Openings and Cost of Living	None given.	Unclear, incorrect, or incomplete location of job openings given with little to no discussion of the associated cost of living.	Locations of openings are clearly, correctly, and fully given with the associated cost of living discussed.
Effect on Future Plans	None given.	Unclear, incorrect, or incomplete effect on student's future plan is discussed.	Effects of this assignment on their future plans are clearly, correctly, and fully given especially in terms of their education.
Organization and Clarity	No assignment submitted OR the organization and clarity is such that the audience cannot understand the meaning of the presentation.	Organization could be improved as the flow is unclear or interrupted in a couple of places, but the audience can still understand the meaning of the presentation.	The organization of the presentation is good and the topics flow well with no to very minimal disruption. The audience has no trouble understanding the presentation's meaning.

References

1. Wood-Wentz, C. M. and Cook, H. L., (2025), “ELICS in the classroom – The Educational Level Implications on Careers in Statistics (ELICS) study”, United States Conferences on Teaching Statistics, July 2025, Ames, Iowa
2. Wood-Wentz, C. M. and Cook, H. L., (2025), “Educational Level Implications on Careers in Statistics (ELICS) in the Classroom”, Joint Statistical Meeting, August 2025, Nashville, Tennessee
3. Ponomarenko, A. N. and Svirina E. M., (2020), “Russian Association of Statisticians: Filling the Gaps in the Education Chain”, Statistics Education Research Journal, 19(1), <https://doi.org/10.52041/serj.v19i1.126>
4. Donald, W.E., Ashleigh, M.J. and Baruch, Y. (2018), "Students' perceptions of education and employability: Facilitating career transition from higher education into the labor market", Career Development International, Vol. 23 No. 5, pp. 513-540. <https://doi.org/10.1108/CDI-09-2017-0171>