The Occupational Outlook Handbook: Information on Hundreds of Occupations in the United States

Please stand by for realtime captions.
Good afternoon, everyone. Welcome to the Academy. My name is Joe I am and outreach librarian here at GPO with my colleague Ashley's tech support . We have a great webinar for you today. Entitled the occupation outlook handbook information on hundreds of occupations in the United States. With us today is our presenter Domingo Angeles. Economists employee productions program officer of employment and unemployment statistics for the US euro of labor statistics. Domingo has his camera on. A little bit about Domingo. He helps maintain the occupational outlook handbook and career outlook websites as well as help develop the career info mobile app. With that I will turn it to Domingo who will take it from here.

Thank you, Joe. It looks like it advanced my slides to the very end. Thank you for joining today. As Joe mentioned my name is Domingo Angeles an economist with BLS in the division of occupation employment projections. Today I just wanted to talk about the products, analyze the data as well as go over the new new mobile application which is career info. Which is available for both iOS and android devices. It is completely free. The program produces a new set of tenure projections every year. Be projections program uses a variety of data sources that are categorized by two classification systems. The North American industry classification system used for classifying industry output and employment. And then the standard occupational classification system used for projections at the occupational level.

These projections that we do for both industry and occupation form the basis for the data in the occupational outlook and took. States produce state and area projections which are funded I the US Department of Labor specifically the employment and training administration. These state and area projections are used to determine job Amand. Demand. We have a wide variety of people who use employee projections data including career counselors and students making career choice decisions. Jobseekers looking for work or to switch occupations. Education and training officials making decisions on policy, trending funding, and program offerings based on demand for specific occupations. We also have researchers interested in how the economy is changing from a occupational projection perspect.

The main products of the program are released on the website. Completely free and includes the outlook handbook which as I mentioned is available as a website in its entirety and also as a mobile app. Then we have the career outlook website which is published throughout the year and includes practical information on jobs, careers, and we also have the data that underpins the publications in the app and projections by industry and occupation. Then we also have technical materials including occupational openings education and training categories and more available on the website. We also have a few videos available on the BLS YouTube channel. We have a number of products coming from our office.

Just to get into the data, let's talk about industry employment. Starting with a broader perspective of and then we will zoom into more specific occupation groups and detailed occupations. What we are looking at here is the total non-agricultural wage and salary of employment which includes wage and salary data from the current employment statistics or CES and the current population survey. The job count is projected to rise from 146 The job count is projected to rise from 146.7 million to 154.9 million over the projection period. This is 2021 through 2031 a increase of about 8.2 billion jobs. I want to note that the shaded regions are in fact the recession. According to the national Bureau of economic research.

Let's take a look at the data from a industry sector perspective. First is the professional business services industry sector. It is the largest in terms of the number of job. This set includes computer systems design and related services, employment services, management, scientific and technical consulting services, and administrative office support services. Then the second one which is healthcare

and social assistance which is the second largest industry set. Both of these sectors are service providing as noted in blue. Manufacturing is a goods producing sector it is the sixth in terms of jobs in 2021 however, manufacturing is one of the largest sect tours in terms of sheer nominal output. This is because of the high productivity in the manufacturing sick to. So now let's look at a specific industry sector. Healthcare and social assistance is projected to continue to grow. It is projected to add 2.6 million jobs over the projection period. From 20.1 to 22.7 to 22.731 the healthcare social assistance sector is the list. It is a variety of healthcare services and then, the other industry sector I wanted to highlight is the leisure and hospitality sector projected to add 1.9 million jobs from 14.1 to 16 million jobs over the projection period. It is the sector projected to add the second most new jobs. Factors include both businesses making up for losses suffered as a result of the pandemic, and the general public's desire to resume participation in recreational activities.

The next industry sector there is the manufacturing sick which is projected to lose 139,400 jobs over the projection period. So it is projected to have little change. It is projected to lose 149,000 jobs. Due to the long-term trends including international up competition and the adoption of more productivity and technologies such as additional [Indiscernible - low volume] retail trade is projected to have the largest projected employment decline. It is projected to lose about 332,700 jobs by 2031. Which is the most of any sect. Sector. Because of the continued displacement of the mortar retail and e-commerce it underpins the decline in retail trade. Now let's take a look at specific occupational groups as well as detailed occupation. Before we do I want to highlight the difference of what we provide employment change and the other measure we provide witches percent employment change. One thing to note is for example wind turbines service technicians is a small occupation. Although it is projected to grow 44.3% in numerical terms that means 4.9 thousand jobs over the projection period. We contrast that with home health and [Indiscernible] that is projected to grow slower but in numerical terms that means 924,000 jobs over the projection period. Here we have it ranked in order of size to provide an idea of each occupational group.

The 22 occupational groupings are based on the standard occupational classification system. Of the major groups, the office and administrative support occupations had the most employment in 2021 of the 159.1 million total employment occupations in 2021. Also see that sells related occupation is second to administrative support occupation. With about 14 point With about 14.7 million. A total of 158 million jobs. Then we continue and see the rest of the major occupational groups. We notice that farming, fishing, and forestry occupations had the fewest jobs in 2021. Now let's take a look at the growth for occupational groups. Now we are looking in percentage terms. I will note that the total for all occupations in the average growth for the total of all occupations is 5.3%. Several healthcare related occupational groups are project did to have growth over the 2021 2031 decade. As you can imagine healthcare support occupations are projected to have the fastest employment group of the groups. This includes a wide variety of occupations driving the growth is home health and personal care aides. The largest occupation in the group is projected to grow 25.4% and add 924,000 job. Computer mathematical occupation follows healthcare support occupations. It is the second fastest on the list. A strong demand for IT security software development and new products and services associated with the Internet of things and it is driving the demand for occupations in the group. The Internet of things refers to the network of physical objects such as appliances connected. They have some embedded sensors to allow projects to connect to devices to send and receive data.

We continue from the previous slide. If we look at office and administrative support occupations projected to decline 4.5%, the total for all occupations is 5.3%. Technological change facilitating automation are expected to continue to negatively affect the employments for office and administrative support occupations. Include software tools and voice and image recognition digital data collection and automated scheduling services performing the work done by many of the office and administrative support occupations. Including secretaries and clerk. If we look at production occupations which is

second from the bottom, again, productivity increases from technologies such as automation and they are projected to cause declines for workers who are mostly employed in many during. Sales and related occupations this decline is due to the continued increase in e-commerce.

Now let's take a look at it from the perspective of most new jobs in numerical terms. The first on the list is food prep and serving related occupations. Most of the 1.3 million jobs added in this occupational group represent recovery from the mass layoffs that occurred in the hospitality sector during the COVID recession. The second occupational group healthcare support occupations, driving the growth is increase for home health and personal care assistants by the growing elderly population. If we look at the bottom the item at the bottom office and administrative support occupations is presented projected to lose 880,000 jobs cells objected to lose 164,500 jobs and production occupation is 163,600 job over the same period.

I just want to talk about these occupations. If we look at the total occupations the total occupations growth is 5.3% a .3 million jobs over the projection period. When we divide all occupations into STEM and non-stem occupations, we then see the growth for STEM occupations versus non-stem. First STEM occupations the projected growth is about 10.8% faster than the average for all occupations. If we look at non-stem it is 4.9. A little bit less for the total of all occupations. In numerical terms that means 1 million jobs over the projection period for STEM and non-stem is one point -- I'm sorry cost 7.2 million job over the same period. Of course some of this is the total of all occupations as mentioned. In addition to projecting employment growth stemming from new jobs ELS estimates the total number of separations expected for each occupation in which we produce projections, for example I mentioned the projection period is 2021 through 2031 if we think about current as 2021 income it workers refers to the workers who are currently employed in a given occupation. As you can imagine over the 2021 2031 decade there will be people who leave the occupation. They may exit the labor force entirely. Such as they want to go back to school and maybe they are retiring from the workforce. There are also other workers who leave and occupation purpose permanently and transfer to a different occupation. Navy they were an accountant and they leave for different occupation such as a teacher. The green rectangle represents workers who filled newly created positions. Job openings due to growth such as the growth that was talking about earlier.

The yellow portion refers to workers who filled positions vacated by incumbents of 2021 it is representing the turning of occupations where people believe leave permanently and others fill that position. Together you have openings due to growth and separations and then workers who remain in the occupation since 2021 the sum of which is occupational openings due to growth and separations. We provide this to give a clear picture of the total job openings expected over the projection period. I want to note that the slide is for illustrative per sis. Purposes.

Let's look at detailed occupations and total occupational things. In this case with the most openings is food encounter workers. It is projected to have 741 It is projected to have 741,400 total occupational openings. Followed by home health and personal care aides with 711,700 job spirit cashiers retail salespersons stockers order fillers and wagers and waitresses. For some of the occupations such as cashiers and retail salespersons many of these seven rations separations that leave exit the labor force or transfer into another occupation these separations will result from a large number of young workers that leave these occupations permanently. Just to note that the median annual wage for all occupations in May 2021 was 45,760. The medium annual wage for each occupation were less than the median annual wage for all occupations.

Let's jump into education, training and the data available. For each detailed occupation we assigned education and training classifications. For example, we will assign typical education needed for entry for a given occupation, assigned work experience in a related occupation, and then assign typical on-the-job training needed to obtain competency in the occupation. These assignments are based on quantitative research. We will take a look at the American community survey or ACS data. Then we look at own at

education attainment data and then data from the national Center for education statistics. We will also do qualitative research that includes interviews with Doug patient experts. Occupational experts.

Now let us take a look at the data broken down by education. We have Docktor you'll, Masters, bachelors, associates couple secondary nondegree award, some college no degree, high school diploma or equivalent and no formal education credential. In 2021 most of the appointment was in occupations that typically required a high school diploma or less. More than one third of the jobs in 2021 were in occupation that typically require some postsecondary education to enter. If we look at the wages, wages are much higher in the bachelors high degree categories with the median annual wages above 75,000 in all three categories. Now let's take a look at it from a growth perspective in percentage terms and then broke it down by education.

5.3 is the average for all occupations. We have it broken down by education attainment. You will notice that occupations that cyclically require a Masters degree in are projected to grow the fastest during the 2021 331 decade. This is followed by tutorial or professional degrees and then associate degree then bachelors degree. Postsecondary not greet award occupations. The slowest the slowest projected is some college no degree with .8% over the projection period. Now let's begin to look at it in numerical growth perspective by education. These are the 10 occupations that have the largest projected job growth we have lawyers this is the one I wanted to show you. We have lawyers at 80.2 thousand jobs over the projection period. Then we have health specialty teachers with 59,400 jobs physical therapist with 40,400 jobs. With the exception for lawyers and postsecondary teachers the remaining of the 10 occupations are in or related to healthcare.

These are the 10 occupations that have the largest projected growth and typically need a Masters degree. We have nurse practitioners, physician assistants, speech language pathologist, educational guidance and career counselors. All of the large growth occupations in the educational category are related to healthcare education and social services. Then we have the 10 occupations that have the largest projected job growth and typically need a bachelors degree to enter the application occupation. Of these occupation software developers project to have the largest growth reflecting the largest digitization of the economy. The next light is the 10 occupations with the largest growth we have preschool teachers, paralegal and legal assistance, physical therapist assistants, dental hygienist, is given to the bottom occupational therapy assistants.

The slide there are 10 occupations and occupations that typically need a high school diploma or equivalent. Home health and personal care aide. It has a projected 924,000 number of jobs over the projection period. Stockers, supervisors, light truck drivers and skipping ahead child care workers. Occupations with the largest growth at this level typically need different types of training ranging from short-term one month or less to moderate term which is more than one month up to 12 months. Work experiences typically needed for forest line supervisors of food prep and workers. It does not typically have OGT on the job training.

This last slide are the 10 occupations that have the largest projected job growth and typically do not need a formal education. We have cook, fast food encounter workers, waiters and waitresses, skipping ahead we have landscape and groundskeeping workers. While these workers may not need formal education to enter occupations, they typically need on the job training to obtain competency. Now I'd like to go over some resources for additional information about our products and the BLS projections. The first is the occupational outlook handbook. This will include job descriptions, education and training requirements, wage data, job outlook information. It is updated in real time online and includes over 300 occupational profiles covered in more than 500 detailed occupations. It is the front end or data that I went over. For example, a lawyer. The occupational data for lawyers will have an occupational profile outlook handbook and we will cover what they do to had to become one can't the work environment, and of course the job outlook that provides a narrative as to why it is growing over the projection period. Then we have the occupational outlook handbook at

This is called career info. It is available for iOS and android. A completely free app. We have currently included everything on the website and most of it is in the app so now we are enhancing the app by adding additional features such as local data. The user may be on the lawyer profile and then curious about how many lawyers are in specific locations. What the user will be able to do is click on a button and tell me how many lawyers are in the metropolitan area or state or county. They will get occupational data, wage data and unemployment data for their location. Nine implement data by lawyers or by occupation but local unemployment data for their specific location. We are working on additional features. We are continuously updating the app. I would encourage you to download this and let us know if you have any feedback for other features you would like to see.

Then we have the career outlook which includes articles about education, careers, and BLS data. Career outlook articles are released to throughout the year. Some examples include city careers on the move, occupations in urban transportation, and then we have interviews with a personal chef and articles such as the effects on the pandemic on projected employment and selected industries for the prior 2019 2029 projection period. We also have the employment projections homepage that provides access to all of the data I just went over. It provides access to detailed projections data, and information about occupational separations, rates and education and training categories. I want to note here that the 20 2131 projection covers 832 detailed occupations. We have projections for all of the 832 as well as education and training assignment for those 832 occupations. Then, the projections cover 295 industries at the national level only. And then some websites you may want to check off for more information. We have the technical documentation for the projections process and how it is produced and it is in the methods handbook. We have other publications related to projections at the website on your screen. There is also a website for frequently asked questions.

The data that BLS produces for occupations and industries and education assignments is only at the national level. States produce their own state and local area projections and their website is on the screen. With that, that is the end of my slides. I am happy to answer any questions.

Thank you, Domingo. Excellent presentation. Do we have any questions? Yes career info is the app. You covered that.

What else?

[Indiscernible - static]

Jennifer added the link in the chat to that. The slides will be available tomorrow or the next day. They will be in the training repository. Jennifer asked if you can use the OOH to find the data you presented? Can you do a mini demo?

Absolutely.

Your audio is good.

Yes I can do a demo. But to answer [Indiscernible - static] question on what is available as an app, the OOH is available as an app in its entirety. [Indiscernible - static] the first step was to read reproduce it as a mobile application static you can favorite occupational profile. There are 300 occupational profiles. You can favorite them and save it for later. [Indiscernible - static]

I can demo what is available on the website[Indiscernible - static]

[Indiscernible] [Indiscernible - static]

Joe can you please mute.

We can see your screen.

This is the desktop version of OOH . If we look at cartographers and photo grandma touristic you will see we have in outlook. There is a quick fact table. It has the outlook, number of jobs, median pay, education assignments, and the numerical growth over the projection period. If you wanted to look at more data you could look at job outlook and if you click on a able take you to the narrative we say that the use of mats for government planning should lead to some employment growth cartographers and photo grammatical tourists Wasson be needed to map and locate areas. That is the narrative as to why

it is growing 3%. If you wanted to look at more data click on get data. Then it will give you occupational data that is projected to go ahead and growth free percent. It will then break it down by industry. In the utilities industry cartographers are projected to decline by .8%.

In the data processing hosting and related services industry it is project it to grow 15.9% over the projection period. This amounts to about 100 -- it is zero because it will be less than the rounded value. As we see here it is 120 21 and in 2031 it is also 100. If you wanted more information on specific occupations go to the job outlook section and scroll down to the table then click on get data and it will give you the breakdown by industry. This profile has a single occupation but there will be profiles that cover multiple occupations in a single program.

This occupational profile is for grounds maintenance workers. Within this profile we cover for detailed occupations landscaping workers all the way down to grounds maintenance workers and others. The reason for this is we group them together because they are part of the broader grounds maintenance workers. If we look at the code it is 37 data 3000 and these are the detailed occupations. If you want to get more data by industry you can click on here and get the breakdown by industry. I'm not sure who asked the question but hopefully that answers your question.

[Silence]

Can you show the breakdown for professions in education [Indiscernible - low volume] this is the occupational profile for librarians and library media specialist. They will have a quick fax table here in there will be a breakdown of what they do. Everyone here knows what you do. We have the work environment which will be broken down into which industries librarians are employed in. 30% 36% of all librarians are in the elementary and secondary schools state and local and private. 30% are in local government excluding education and hospitals. 19% are in colleges and universities and 5% are in information. These are just the top industries that of course there are other industries. Within the work environment you also have work schedule and how to become one. You have the pay broken down into same industries. Colleges, elementary schools and local government. We have the data here with the total occupation and the median and annual wage for the occupations.

I believe this is the broader level librarians, curators and archivists. This is the detailed group. Then you can look at the breakdown and this would only covers a single occupation. Then you can see the growth and compare it to the total all occupations. Then the broader librarians curators and archivists occupational group. We also have the narrative available which explains why is projected to grow 6% for the projection period. If you are interested we also have information on similar occupations and more info [Indiscernible - static]

We are running on time for good information, Domingo.

Did you notice any other questions?

I said we are running on time we have to end at three but take you for the information.

We do have other questions.

Trina said she is familiar with [Indiscernible] not the standard occupational system is there manual?

The [Indiscernible] is updated by the census. I believe we are involved with updating up with the standard occupational classification is something that is spearheaded by BLS there is a handbook on the BLS.gov website. I believe it is this one. Then you will see[Silence]

The entire manual is available as a PDF. If you wanted to see a outline of the occupation that is available here. 2018 SOC structure. There is a guide available at the BLS site.

How is the information gathered?

It is a broad question but I'm guessing it is about how we may projections. The base here at 2021 the employment number is based off of a number of surveys we produce including CES data and the current population survey. We also use OE WS office of employment and wage statistic's. We use the occupational staffing patterns. If a industry has 100 occupations for a level of employment of 100 for a level of employment of 120 of them are nurses, that would be a staffing pattern for nurses in that

industry. And nurses are employed across many industries. We will grab all of the staffing patterns for nurses and apply it to the industry number to come up with a base year number for nurses. The actual projections are a combination of quantitative and qualitative research. By looking at the historical trends [Indiscernible - static] and qualitative to identify [Indiscernible - static] shock to the occupational utilization of an occupation. Maybe increased automation or reduce the occupational utilization for a given occupation. If the staffing pattern is 20% maybe the analyst will say the staffing pattern will disk decreased to 10%. Within a given industry the automation in specific occupation. I rushed over that but if you want more information you can visit the handbook of methods is should come out and give you a detailed idea of how we put everything to gather.

Direction of some of the workforce directions and trajectory of farming I don't know if you covered that.

For farming[Indiscernible - static] [Indiscernible - low volume]

Thank you am sorry but we are running short on time. Any last things on the bottom?

Can you show the breakdown for professions in the library and fields? Which sector is growing [Indiscernible - static] [Indiscernible - low volume]

[Indiscernible - static] [Indiscernible - low volume] it is projected to grow the fastest amongst education support services local. In performing art and all of the other industries here.

[Indiscernible - static] thank you Domingo. That is terrific. I wish we had more time. Unfortunately I have to close out. This is been a fantastic webinar. I would like to think Domingo for a great webinar. Thank you Ashley and tech-support and thank you to the audience. Please come back to the Academy for more webinars. Please check our calendar. We have great webinars coming up. I'm sure we would love to have Domingo come back and present again. We appreciate it. Thank you to everyone and have a great rest of your day.

[Event Concluded]