WEBVTT

- $1\ 00:00:03.845 \longrightarrow 00:00:05.448$ Hello everybody welcome,
- $2~00:00:05.448 \longrightarrow 00:00:08.150$ we're gonna give it just a second for everyone to get set up
- $3\ 00:00:08.150 \longrightarrow 00:00:10.150$ and then we will get started here today.
- $4~00:00:17.870 \dashrightarrow 00:00:20.180$ Right, it looks like most are connected to the audio,
- $5\ 00:00:20.180 --> 00:00:22.982$ so I welcome you all thank you for joining us,
- 6~00:00:22.982 --> 00:00:25.691 my name is Becca Melnick.
- $7\ 00:00:25.691 \longrightarrow 00:00:27.254\ \text{I'm}$ the associate director of admissions,
- $8~00:00:27.254 \longrightarrow 00:00:28.330$ here at the Yale School of Public Health.
- 9 00:00:28.330 --> 00:00:30.610 I recognize many names, I've seen you all
- $10\ 00:00:30.610 \longrightarrow 00:00:32.070$ on events earlier this week,
- $11\ 00:00:32.070 --> 00:00:34.730$ and I've conversed with a lot of you throughout the process
- 12 00:00:34.730 --> 00:00:36.962 so, thank you for joining us today,
- $13\ 00:00:36.962$ --> 00:00:41.310 this session for our Executive MPH Virtual Open House,
- $14\ 00:00:41.310 \longrightarrow 00:00:43.528$ is focused on the Environmental Health Sciences Track,
- 15 00:00:43.528 --> 00:00:46.100 as hopefully many of you have seen,
- 16 00:00:46.100 --> 00:00:48.014 we've had other events throughout this week,
- 17 00:00:48.014 --> 00:00:51.270 a general program overview,
- 18 00:00:51.270 --> 00:00:54.352 sessions for other tracks specifically,
- $19\ 00:00:54.352 \longrightarrow 00:00:56.520$ and we'll be having other events for financial aid careers,
- $20\ 00:00:56.520 \longrightarrow 00:00:58.930$ and the intensives leader in the week.
- $21~00:00:58.930 \dashrightarrow 00:01:03.010$ So with that, I will turn it over to Yong Zhou,
- 22 00:01:03.010 --> 00:01:04.550 who's the track coordinator,
- $23\ 00:01:04.550 \longrightarrow 00:01:06.980$ to talk a little bit more about our EHS Track.
- 24 00:01:06.980 --> 00:01:08.270 And we'll just say that,
- $25\ 00{:}01{:}08.270 \dashrightarrow 00{:}01{:}10.240$ we want this to be interactive and helpful for you,

- $26\ 00:01:10.240 \longrightarrow 00:01:12.328$ so please feel free to ask questions that you have as we go.
- $27\ 00:01:12.328 \to 00:01:16.411$ Thank you, Becca and everyone joining us today,
- $28\ 00:01:26.833 \longrightarrow 00:01:27.666$ so this is a brief overview
- $29~00:01:30.416 \longrightarrow 00:01:31.890$ about Environmental Health Sciences Track.
- $30\ 00:01:31.890 \longrightarrow 00:01:32.723$ That's the first from page.
- 31 00:01:32.723 --> 00:01:34.797 So just a little bit about myself,
- $32\ 00{:}01{:}34.797 \dashrightarrow 00{:}01{:}39.170$ My name, Yong Zhou, I've PhD in Molecular Biology,
- $33\ 00{:}01{:}39.170 \dashrightarrow 00{:}01{:}42.470$ currently I'm Associate Professor of Epidemiology,
- $34\ 00{:}01{:}42.470 \dashrightarrow 00{:}01{:}45.520$ in the Department of Environmental Health Sciences,
- $35\ 00:01:45.520 \longrightarrow 00:01:48.720$ So my research area is in the field of
- $36~00{:}01{:}50.025 \to 00{:}01{:}50.893$ molecular cancer epidemiology.
- 37 00:01:53.589 --> 00:01:55.485 Basically dealing with biomarker,
- $38\ 00:01:55.485 \longrightarrow 00:01:59.073$ or social weights, environmental exposures
- $39\ 00{:}01{:}59.073$ --> $00{:}01{:}59.906$ and the disease progression disease, CLPD outage,
- 40 00:02:01.995 --> 00:02:03.765 so from molecular perspective,
- $41\ 00:02:03.765 \longrightarrow 00:02:05.251$ and Almeida based the perspective.
- $42\ 00:02:05.251 \longrightarrow 00:02:07.485$ This is my research area.
- 43 00:02:07.485 --> 00:02:10.119 And research disease focused on cancer,
- 44 00:02:10.119 --> 00:02:12.233 so this is my email, and cellular phone number,
- $45\ 00:02:14.277 \longrightarrow 00:02:16.021$ we have another slide,
- 46 00:02:16.021 --> 00:02:16.854 talking about my my role in this program,
- $47\ 00:02:24.837 \longrightarrow 00:02:27.405$ this is my contacting for
- $48\ 00:02:27.405$ --> 00:02:28.460 so you want me to fail sciences that become one
- $49\ 00:02:29.505 \longrightarrow 00:02:31.260$ of the dominant themes of the 21st century
- $50\ 00:02:31.260$ --> 00:02:35.969 this century because of the growing global population

- 51~00:02:35.969 --> 00:02:40.969 and our limited resources and the strain ecosystem
- 52 00:02:41.294 --> 00:02:44.187 monetary challenges require aware
- $53\ 00:02:44.187$ --> 00:02:47.985 train workforce and possessed the scientific skills.
- $54\ 00:02:47.985 \longrightarrow 00:02:51.237$ And then I think the tours to come from the emerging stress.
- $55\ 00:02:51.237 --> 00:02:53.175$ So we need to learn something, but again
- $56\ 00:02:53.175 --> 00:02:54.612$ that's the purpose of the cost we design to
- $57\ 00:02:54.612 \longrightarrow 00:02:59.612$ to fit the requirement off of these challenges
- $58\ 00:03:02.411$ --> 00:03:05.342 because through important the national Institute
- 59 00:03:05.342 --> 00:03:09.680 of environmental health sciences, and yet
- $60\ 00:03:09.680 \longrightarrow 00:03:11.217$ as one of the major Institute
- $61~00:03:11.217 \longrightarrow 00:03:14.621$ NIH and also world health organization WHO
- $62\ 00:03:14.621 --> 00:03:18.087$ have launched collaborating center
- $63~00{:}03{:}18.087 \dashrightarrow 00{:}03{:}23.030$ to investigate many environmental health science,
- $64\ 00:03:23.030 \longrightarrow 00:03:24.780$ concerns, for example
- $65\ 00:03:26.143 --> 00:03:27.180$ on our children's environmental health science
- $66\ 00:03:27.180 \longrightarrow 00:03:28.870$ that could be impacted
- $67\ 00{:}03{:}29.883 \dashrightarrow 00{:}03{:}32.080$ by environmental exposures and the Columbia changes and the
- $68~00:03:32.080 \dashrightarrow 00:03:35.787$ and the human health and the indoor air pollutions
- $69\ 00:03:35.787 \longrightarrow 00:03:37.675$ including other productions from the water
- $70~00:03:37.675 \longrightarrow 00:03:42.675$ or the pollution is also so that's the important
- $71\ 00:03:42.786 \longrightarrow 00:03:44.970$ off the mountain fail sciences, probably.
- $72\ 00{:}03{:}44.970 --> 00{:}03{:}48.359$ That's the one for the reason you, you take the front
- $73\ 00:03:48.359 \longrightarrow 00:03:52.420$ of the house to check, but this is the three calls us.
- $74\ 00:03:52.420 \longrightarrow 00:03:54.120$ We put together.
- $75~00:03:54.120 \dashrightarrow 00:03:58.360$ It's very unique accurately for 12 calls.

- $76\ 00:03:58.360 \longrightarrow 00:04:01.930$ So we combine to our professors
- 77 00:04:01.930 --> 00:04:06.920 their expertise to enhance the content
- $78\ 00:04:06.920 \longrightarrow 00:04:09.030$ and health of these calls us, we them with the first one
- $79\ 00:04:09.030 --> 00:04:12.133$ we first caused you to support your assessment.
- $80\ 00:04:12.133 \dashrightarrow 00:04:17.133$ So we all exposed to different chemical, biological,
- 81 00:04:18.050 --> 00:04:22.961 physiological, environmental agents doing our daily life.
- $82\ 00:04:22.961 --> 00:04:25.172$ But these calls were provided tours
- $83\ 00:04:25.172 \longrightarrow 00:04:27.841$ to assess environmental stressor
- 84 00:04:27.841 --> 00:04:30.410 in conquer the indoor or outdoor
- $85\ 00:04:30.410 \longrightarrow 00:04:32.290$ and occupational environment.
- $86\ 00:04:32.290 --> 00:04:35.580$ And there's review masters for evaluating the quantitative
- $87\ 00:04:35.580 \longrightarrow 00:04:38.906$ of the exposure data for you.
- $88\ 00:04:38.906$ --> 00:04:42.472 Then pull the air pollution, the water contamination.
- $89\ 00:04:42.472 \longrightarrow 00:04:45.140$ So what's the best way to assess them
- $90\ 00:04:45.140 --> 00:04:48.972$ and how to collect the quality data for research purpose.
- $91\ 00:04:48.972 \longrightarrow 00:04:51.530$ I think these are the first the costs
- 92 00:04:52.470 --> 00:04:55.540 that's given the concept is that a lot
- 93 00:04:55.540 --> 00:04:59.852 of diseases associated with you can support you
- $94\ 00:04:59.852 \longrightarrow 00:05:02.004$ but this is the pure epidemiological approach.
- $95\ 00:05:02.004 \longrightarrow 00:05:04.600$ We've tried to find association
- 96 00:05:04.600 --> 00:05:06.952 between exposure and the disease or other Phil's outcomes
- 97 00:05:06.952 --> 00:05:10.290 making a connection
- $98~00{:}05{:}10.290 \dashrightarrow 00{:}05{:}14.760$ by the water tours available for exposure assessment
- $99\ 00:05:14.760 \longrightarrow 00:05:17.060$ but still then we can say the how to apply the

- $100\ 00:05:18.687 \mbox{ --> } 00:05:21.040$ latest epidemiological and toxicological research
- $101\ 00:05:21.040 \longrightarrow 00:05:22.840$ to their own work and the project.
- $102\ 00:05:22.840 \longrightarrow 00:05:26.550$ So after this course, that's the initial part.
- $103\ 00:05:26.550 \longrightarrow 00:05:31.060$ So we have two professors teaching.
- $104\ 00:05:31.060 --> 00:05:33.960$ These costs, professor Nico diesel.
- $105\ 00{:}05{:}33.960 \dashrightarrow 00{:}05{:}37.280$ She is a pro, especially the professor I would department.
- $106\ 00:05:37.280 \longrightarrow 00:05:39.920$ So her expertise is in the field
- $107\ 00:05:39.920$ --> 00:05:42.760 of risk assessment and the methodology methodology.
- $108\ 00:05:42.760 \longrightarrow 00:05:47.307$ And also we have professor crystal plate.
- $109\ 00{:}05{:}47.307 \dashrightarrow 00{:}05{:}52.307$ Her expertise is in the chemical and environmental engineer
- $110\ 00:05:53.420 --> 00:05:58.150$ and she developed aware wearable Ben Reese
- $111\ 00:05:58.150 \longrightarrow 00:06:02.690$ the ban to collect the environmental exposures
- $112\ 00:06:02.690 \longrightarrow 00:06:03.970$ then analyze this.
- $113\ 00:06:03.970 \dashrightarrow 00:06:06.180$ I mean the deaf people could carry this again
- $114\ 00:06:06.180 \longrightarrow 00:06:07.900$ individualize the exposure data.
- $115\ 00{:}06{:}07.900 \dashrightarrow 00{:}06{:}12.900$ So they provide both of them were providing expertise
- $116\ 00{:}06{:}12.960 {\: -->\:} 00{:}06{:}17.960$ for the methodology and the four data connecting real data
- 117 00:06:19.477 --> 00:06:20.833 to environmental exposures.
- 118 00:06:22.990 --> 00:06:26.325 That's the first, first cost we put together.
- $119\ 00:06:26.325 --> 00:06:29.966$ But if we consider the association
- $120\ 00:06:29.966 \longrightarrow 00:06:33.277$ between exposure and the disease
- $121\ 00:06:33.277 --> 00:06:35.369$ so what's in the middle, that's the black box.
- $122\ 00:06:35.369 \longrightarrow 00:06:39.214$ So the second the cost will help us to
- $123\ 00{:}06{:}39.214 \dashrightarrow 00{:}06{:}40.850$ break this black box to see what specific hazard
- $124\ 00:06:40.850 --> 00:06:44.726$ or exposure agents in this black box that could
- $125\ 00:06:44.726 \longrightarrow 00:06:49.726$ help us explain the observed association

- $126\ 00:06:53.120 \longrightarrow 00:06:56.122$ between exposure and entities.
- $127\ 00{:}06{:}56.122 \dashrightarrow 00{:}07{:}00.420$ So I learned the foundation for understanding our role
- $128\ 00:07:00.420$ --> 00:07:04.123 of toxic cottage in public health protection was a focus
- $129\ 00:07:04.123 --> 00:07:07.690$ on 21st century techniques
- 130 00:07:07.690 --> 00:07:11.240 and the challenges that the new technology students learn
- $131\ 00{:}07{:}11.240 \dashrightarrow 00{:}07{:}14.857$ for hazard identification, but simply why be introduced
- 132 00:07:14.857 --> 00:07:18.160 to basic principles of toxicology.
- $133\ 00{:}07{:}18.160 \dashrightarrow 00{:}07{:}21.500$ If we can have a dose response mechanisms of toxicity
- $134\ 00{:}07{:}21.500 \dashrightarrow 00{:}07{:}24.324$ and the standard of defense instead of a response
- $135\ 00:07:24.324 \longrightarrow 00:07:27.790$ but these all in this black box
- $136\ 00:07:27.790 \longrightarrow 00:07:31.230$ between exposure and the human diseases
- $137\ 00:07:31.230 --> 00:07:33.743$ and then they move on to advanced topics
- 138 00:07:33.743 --> 00:07:37.690 then how we use these tours for study early life
- $139\ 00:07:37.690 \longrightarrow 00:07:40.290$ or one a bit at a low level exposure
- $140\ 00:07:40.290 \longrightarrow 00:07:42.928$ to mixtures and the system biology approaches
- $141\ 00:07:42.928 \longrightarrow 00:07:45.430$ and the green chemistry solutions
- $142\ 00:07:45.430$ --> 00:07:49.160 and the problem presented by chemicals that are common
- $143\ 00:07:49.160 --> 00:07:52.223$ in consumer products and the building environment.
- $144\ 00:07:53.960 \longrightarrow 00:07:56.820$ So Wells together to offer our professors
- $145\ 00:07:56.820 \longrightarrow 00:08:00.485$ the teachers cost professional part.
- 146 00:08:00.485 --> 00:08:01.573 And that's another thing.
- $147\ 00:08:04.140 \dashrightarrow 00:08:06.838$ Yes, Hey, here's the final off green chemistry
- $148\ 00{:}08{:}06.838 \dashrightarrow 00{:}08{:}08.650$ but probably you all know what's green chemistry.

- $149\ 00{:}08{:}08{:}650 \dashrightarrow 00{:}08{:}11.892$ Lastly, we build our product to use in one little friend
- $150\ 00{:}08{:}11.892 \to 00{:}08{:}13.823$ that chemical, then you run with a friend today.
- 151 00:08:13.823 --> 00:08:17.360 Then now it's just with our environment.
- $152\ 00:08:17.360 \longrightarrow 00:08:18.842$ We also have our profile.
- 153 00:08:18.842 --> 00:08:23.842 I will department here, professor I met his name was Ella.
- $154\ 00:08:28.870 \longrightarrow 00:08:31.030$ He's the senior toxicologist.
- $155\ 00:08:31.030 --> 00:08:33.541$ I mean with expertise in this field
- $156\ 00:08:33.541 \longrightarrow 00:08:35.270$ the leading toxicologist in the field.
- $157\ 00:08:35.270 \longrightarrow 00:08:40.110$ So both of them will provide the fundamental principles
- $158\ 00:08:41.410 \longrightarrow 00:08:43.940$ of the different tours that students can use.
- $159\ 00:08:43.940 \dashrightarrow 00:08:48.215$ People can use for hazard identification, but these
- $160\ 00:08:48.215 \longrightarrow 00:08:50.903$ the second and cost be able to
- $161\ 00{:}08{:}50{.}903 \dashrightarrow 00{:}08{:}53{.}761$ upon the first one of the exposure and the disease Carnation
- $162\ 00{:}08{:}53.761$ --> $00{:}08{:}58.761$ and the water towards can use to identify specific hazard
- $163\ 00:08:58.790 \longrightarrow 00:09:00.673$ between exposure and the disease.
- $164~00{:}09{:}06.940 \dashrightarrow 00{:}09{:}10.071$ So the third cost we put together that risk assessment
- $165\ 00:09:10.071 -> 00:09:14.520$ and the policy, these calls were introduced the
- $166\ 00:09:14.520 \longrightarrow 00:09:16.810$ methodology interpretation application
- $167\ 00:09:16.810 --> 00:09:19.070$ on the communication surrounding the use
- $168\ 00:09:19.070 --> 00:09:21.510$ of visit assessment in poppy house.
- 169 00:09:21.510 --> 00:09:23.560 So students were gaining an understanding
- $170\ 00:09:23.560 \longrightarrow 00:09:25.300$ of how toxicology information
- $171\ 00:09:25.300 \longrightarrow 00:09:28.230$ on hotter than a dose response is incorporated.
- $172\ 00{:}09{:}28.230 \dashrightarrow 00{:}09{:}31.460$ We exposing information to predict the house risk

- $173\ 00:09:31.460 --> 00:09:34.587$ for why the variety of populations and also students
- $174\ 00:09:34.587 \longrightarrow 00:09:36.920$ the bathroom visit assessment
- 175 00:09:36.920 --> 00:09:39.263 for real world exposure issues.
- $176\ 00:09:41.810 --> 00:09:45.080$ So after we know about specific exposures
- $177\ 00:09:45.080 --> 00:09:47.990$ and the know about some detailed chemical
- $178\ 00:09:47.990 \dashrightarrow > 00:09:52.990$ a hazard or Asian that could then could expose you and
- $179\ 00:09:54.310$ --> 00:09:57.580 and the human population and the disease outcome.
- $180\ 00:09:57.580 \longrightarrow 00:10:00.350$ So the next job we should do is that what's
- $181\ 00:10:00.350 \longrightarrow 00:10:03.900$ the policy we should put together
- $182\ 00{:}10{:}03.900 \dashrightarrow 00{:}10{:}08.900$ for policy decision making, but again, risk management
- $183\ 00:10:09.460 --> 00:10:12.776$ also the policy maker to make decisions.
- $184\ 00:10:12.776 --> 00:10:15.700$ So this work gave us some idea
- $185~00{:}10{:}15.700 \dashrightarrow 00{:}10{:}18.430$ about what information we should have put together
- $186\ 00:10:18.430 \longrightarrow 00:10:20.420$ to present to the policy maker
- $187\ 00{:}10{:}20.420$ --> $00{:}10{:}23.880$ and the involved with the English risk of management and
- $188\ 00:10:24.750 --> 00:10:27.490$ and the policy and public health policy.
- 189 00:10:27.490 --> 00:10:31.117 So we have professor Gary Ginsburg.
- 190 00:10:31.117 --> 00:10:34.070 So he's also the director of the center
- 191 00:10:34.070 --> 00:10:37.440 for environment health in New York state department
- $192\ 00:10:38.796 --> 00:10:40.517$ of health, who he has tons of experience
- $193\ 00{:}10{:}40.517 \dashrightarrow 00{:}10{:}44.045$ with policy environmental policy, and also how
- $194~00{:}10{:}44.045 \dashrightarrow 00{:}10{:}47.455$ to interpret the data collected the farm research
- $195\ 00:10:47.455 --> 00:10:49.193$ from different research.
- $196~00{:}10{:}50.418 \dashrightarrow 00{:}10{:}52.590$ But most of the time we have to conduct a multiple

- 197 00:10:53.720 --> 00:10:56.450 research project to confirm exposure
- $198\ 00{:}10{:}56.450 \dashrightarrow 00{:}11{:}00.090$ and the disease relationship, the what information they
- $199\ 00:11:00.090 \dashrightarrow 00:11:02.990$ what are important for the fullest policy makers.
- $200\ 00:11:02.990 \longrightarrow 00:11:07.230$ So these are these sweet calls us give a different
- $201\ 00:11:07.230 --> 00:11:09.790$ perspective of how we approach environmental related
- $202\ 00:11:09.790 \longrightarrow 00:11:11.243$ to the issue.
- $203\ 00:11:13.819 \longrightarrow 00:11:15.469$ Okay I think firstly, these days.
- 204 00:11:22.800 --> 00:11:26.520 Okay in addition to these three courses
- $205\ 00{:}11{:}26.520 \dashrightarrow 00{:}11{:}31.520$ but students can also get access to all our faculty members.
- 206 00:11:31.613 --> 00:11:35.170 I know that they also go to site visit.
- 207 00:11:35.170 --> 00:11:37.693 You can have in-person meeting.
- $208\ 00{:}11{:}37.693 \dashrightarrow 00{:}11{:}41.673$ We saw were a faculty member, but you can always check
- $209\ 00{:}11{:}41.673 \longrightarrow 00{:}11{:}46.673$ out our website to identify the faculty with research issues
- $210\ 00{:}11{:}48.400 \dashrightarrow 00{:}11{:}51.760$ or with resource areas that fit your interests, you fit.
- 211 00:11:51.760 --> 00:11:55.030 We are, you you're very welcome to contact them.
- 212 00:11:55.030 --> 00:11:57.470 The research expertise of our EHS faculty.
- 213 00:11:57.470 \rightarrow 00:11:59.657 It covers a number of few if we can, some off of them.
- $214\ 00:11:59.657 \longrightarrow 00:12:01.603$ And we are then at the end
- $215\ 00{:}12{:}01.603 \dashrightarrow 00{:}12{:}05.676$ we already talked about that's the resource area
- 216 00:12:05.676 --> 00:12:07.754 of the course instructor framework.
- $217\ 00:12:07.754 \longrightarrow 00:12:09.530$ But in addition to those
- $218\ 00:12:09.530 \longrightarrow 00:12:12.280$ we have climate and energy impact on sales
- $219\ 00{:}12{:}13.487 --> 00{:}12{:}18.056$ where people working on climate change and human health.

- 220 00:12:18.056 --> 00:12:19.940 We also have faculty member
- 221 00:12:19.940 --> 00:12:23.080 we expertise in developmental orange of human diseases.
- 222 00:12:23.080 --> 00:12:25.313 So for early life exposures are so important
- 223 00:12:25.313 --> 00:12:29.342 that as a risk predictor for later life diseases
- $224\ 00:12:29.342 \dashrightarrow > 00:12:34.342$ and the green chemistry, we already talk about understanding
- $225\ 00{:}12{:}35.300 \dashrightarrow 00{:}12{:}37.817$ and overcoming environmental health disparities.
- $226\ 00:12:37.817 \longrightarrow 00:12:42.817$ We have also people work on novel approaches
- $227\ 00:12:42.870 --> 00:12:45.670$ to assessing environmental exposures and early biomarker
- $228\ 00{:}12{:}47.256$ --> $00{:}12{:}49.960$ of effect the systematic system biology approaches.
- $229\ 00:12:49.960 \longrightarrow 00:12:52.213$ That's why they use among seven welfare.
- $230\ 00:12:53.941 \dashrightarrow 00:12:55.423$ So we're all following faculty groups.
- 231 00:12:56.750 --> 00:13:00.211 And also we use this tours to apply these tours
- $232\ 00:13:00.211 \longrightarrow 00:13:02.830$ in the major human diseases
- 233 00:13:02.830 --> 00:13:05.660 including cancer, heart disease
- $234\ 00{:}13{:}05.660$ --> $00{:}13{:}08.863$ and also these days than the Corona virus COVID-19.
- $235\ 00{:}13{:}14.863 \dashrightarrow 00{:}13{:}18.020$ Okay, so during the pandemic, we have a lot of experience
- 236 00:13:18.020 --> 00:13:20.880 with online teaching, but also online research
- $237\ 00{:}13{:}21.930 \dashrightarrow 00{:}13{:}25.320$ but you're well, very welcome to contact our faculty member
- $238\ 00:13:25.320 \longrightarrow 00:13:28.109$ to see whether you want to participate in their
- 239 00:13:28.109 --> 00:13:32.480 or know more about the research, a specific topic
- $240\ 00:13:32.480 \longrightarrow 00:13:34.423$ or get involved in their research.
- 241 00:13:35.519 --> 00:13:37.300 Probably we can, we can develop something for you too.
- $242\ 00{:}13{:}37.300 \dashrightarrow 00{:}13{:}39.910$ This would be working with it, gained some experience

- 243 00:13:39.910 --> 00:13:41.710 involved in a real research setting.
- 244 00:13:45.580 --> 00:13:48.190 So as a track quality, neither.
- $245\ 00{:}13{:}48.190 \dashrightarrow 00{:}13{:}52.410$ So my though is to help support attract development
- 246 00:13:52.410 --> 00:13:53.860 and review, get feedback.
- 247 00:13:53.860 --> 00:13:56.240 Pharma student investigator, Rob, as a bridge
- $248\ 00{:}13{:}56.240 \dashrightarrow 00{:}14{:}00.493$ between a student and teaching faculty and we've
- $249\ 00{:}14{:}01.875 \dashrightarrow 00{:}14{:}05.330$ cost evaluation, supporting instructors to improve
- $250\ 00{:}14{:}05{.}330 \dashrightarrow 00{:}14{:}07.860$ with their counselors or the cover something you really need
- $251\ 00:14:07.860 --> 00:14:12.482$ in also, I can provide a student academic
- $252\ 00:14:12.482 \longrightarrow 00:14:14.560$ and career mentoring for them.
- $253~00{:}14{:}14.560 \dashrightarrow 00{:}14{:}19.560$ If you want to know more about the specific research
- $254\ 00{:}14{:}21.030 \dashrightarrow 00{:}14{:}25.240$ topic can help you to connect to a wild fire faculty member.
- $255\ 00{:}14{:}25.240$ --> $00{:}14{:}28.420$ And it's upon identification of capstone project
- $256\ 00:14:29.521 \longrightarrow 00:14:31.860$ before the research all fails Easters or
- $257\ 00{:}14{:}35.888 \dashrightarrow 00{:}14{:}37.170$ for any project you are interested, I think we can help to
- $258\ 00:14:44.076 \longrightarrow 00:14:46.568$ to make the connections.
- 259 00:14:46.568 --> 00:14:47.668 So that very brief being sure that I'm sharing
- 260 00:14:47.668 --> 00:14:48.501 about you mom know how science says
- $261\ 00:14:49.810 --> 00:14:52.421$ about the three courses we'll put together
- $262\ 00:14:52.421 --> 00:14:54.720$ About other results.
- $263\ 00{:}14{:}54.720 \dashrightarrow 00{:}14{:}59.720$ To night is also our whole department is open to all for you
- $264~00:15:00.010 \dashrightarrow 00:15:02.583$ and about my role as the coordinator.
- $265\ 00:15:03.507 \longrightarrow 00:15:04.360$ Thank you.
- 266 00:15:04.360 --> 00:15:05.210 And any questions
- 267 00:15:30.800 --> 00:15:31.633 Are there?

 $268\ 00:15:31.633 \longrightarrow 00:15:33.172$ No, no questions at all.

 $269\ 00{:}15{:}33.172 \dashrightarrow 00{:}15{:}34.740$ This is, you know, for you all, any questions you have

 $270\ 00{:}15{:}34.740 \dashrightarrow 00{:}15{:}38.640$ about the courses, the track, the kind of combination

271 00:15:38.640 \rightarrow 00:15:41.290 of courses with other tracks, anything that'll be helpful.

 $272\ 00{:}15{:}41.290$ --> $00{:}15{:}44.390$ And thank you, Reynolds are freezing the chat

273 00:15:44.390 --> 00:15:46.320 feel free to use the chat or raise hand

274 00:15:46.320 --> 00:15:49.652 or just to kind of turn your camera or your mic on

 $275\ 00:15:49.652 \dashrightarrow 00:15:52.823$ - This, off the slides so we could see each other.

 $276\ 00:15:56.450 \longrightarrow 00:15:57.670$ - So the question is

 $277\ 00:15:57.670 \dashrightarrow 00:16:01.973$ are there tours provided to labs where work is performed?

 $278\ 00{:}16{:}01.973$ --> $00{:}16{:}06.973$ Not, I mean, from an emissions perspective, not really.

 $279\ 00:16:09.011$ --> 00:16:11.671 We have a campus tour that will be posted online

280 00:16:11.671 --> 00:16:14.620 within the next probably two weeks.

 $281\ 00:16:14.620 --> 00:16:16.763$ That does show a little bit

 $282\ 00{:}16{:}16{.}763 \dashrightarrow 00{:}16{:}20{.}060$ of the inside of some of our labs, but there are hundreds

 $283\ 00:16:20.060 \dashrightarrow 00:16:23.930$ of faculty research projects and labs on campus.

 $284\ 00{:}16{:}23.930 \dashrightarrow 00{:}16{:}26.843$ It's hard to kind of capture them all in one sort of tour.

 $285\ 00{:}16{:}27.722 \dashrightarrow 00{:}16{:}30.940$ And unfortunately at this point, campus is not open

 $286\ 00{:}16{:}30.940 \dashrightarrow 00{:}16{:}33.940$ to external visitors, so we can't have kind of live tours

 $287~00{:}16{:}33.940 \dashrightarrow 00{:}16{:}36.720$ but I don't know if there's kind of another

 $288\ 00{:}16{:}36.720 \dashrightarrow 00{:}16{:}39.327$ anything else you can think of that would be helpful

- $289\ 00:16:39.327 \dashrightarrow 00:16:42.040$ for kind of tours of labs where work is performed.
- 290 00:16:42.040 --> 00:16:44.000 Well, I know this, our professor Paul,
- $291\ 00:16:44.000 \longrightarrow 00:16:45.410$ another test is here.
- 292 00:16:45.410 --> 00:16:48.501 I think Paul, do you have anything to add
- 293 00:16:48.501 --> 00:16:51.420 Or a pleasing?
- 294 00:16:51.420 --> 00:16:52.440 Some of my apologies
- $295\ 00:16:52.440$ --> $00:16:55.550\ I$ had a little trouble linking onto the zoom link.
- $296~00{:}16{:}55.550 \dashrightarrow 00{:}17{:}00.320$ My, but I, I just wanted to say one thing specifically
- $297\ 00:17:00.320 \longrightarrow 00:17:05.320$ about the, the tours that as, as we transition
- 298~00:17:06.370 --> 00:17:11.370 to increasingly opening up our, our labs, I'd be more
- $299\ 00{:}17{:}11.422 \dashrightarrow 00{:}17{:}16.080$ than happy to engage people and, and coming through our
- $300~00:17:16.080 \dashrightarrow 00:17:20.823$ our labs and, and trying to even do it virtually if you
- 301 00:17:20.823 --> 00:17:24.811 if you wish to contact me directly
- $302\ 00{:}17{:}24.811$ --> $00{:}17{:}29.811$ or through or through yarn or, or, or admissions.
- 303 00:17:30.650 --> 00:17:34.374 So I'm always happy to do whatever we can to
- $304\ 00:17:34.374 \longrightarrow 00:17:36.730$ give you a glimpse into the, the
- $305\ 00{:}17{:}36.730 \dashrightarrow 00{:}17{:}41.730$ the real world, real world of, of our laboratories.
- $306\ 00:17:42.957 --> 00:17:45.110$ There's something that I just wanted to add.
- $307~00{:}17{:}45.110 --> 00{:}17{:}49.173$ If I, if I may professor Zhou, I just wanted to say
- $308\ 00:17:52.727 --> 00:17:53.890$ I thought that the description of the
- $309\ 00:17:53.890 \longrightarrow 00:17:56.794$ of the program was, was really wonderful.
- $310\ 00:17:56.794 \longrightarrow 00:17:58.922$ And the only thing I'd add
- $311\ 00{:}17{:}58.922 \dashrightarrow 00{:}18{:}03.406$ to it was that the way that this program was, was built

- 312 00:18:03.406 --> 00:18:07.662 the way that it thought through was thought
- $313\ 00:18:07.662 --> 00:18:11.530$ through was to identify the essence of what a
- $314\ 00:18:11.530 --> 00:18:15.040$ a student would want to know would need to
- $315\ 00:18:15.040 \longrightarrow 00:18:19.492$ know the essentials of exposure, hazard risk
- $316\ 00{:}18{:}19.492 \dashrightarrow 00{:}18{:}24.492$ those things that are yeah, the, the distillation
- $317\ 00:18:25.240 \longrightarrow 00:18:29.390$ of those key principles, those key fundamentals
- $318\ 00:18:29.390 \longrightarrow 00:18:31.080$ so that they can be applied.
- $319\ 00:18:31.080 \longrightarrow 00:18:32.920$ And then as we said, opening
- 320 00:18:32.920 --> 00:18:35.290 up those other opportunities to interact
- $321\ 00:18:35.290 \longrightarrow 00:18:38.191$ with the wide range of faculties and resources at Yale.
- $322\ 00:18:38.191 \longrightarrow 00:18:40.950$ So that's what it is.
- 323 00:18:40.950 --> 00:18:43.040 It's, it's the essence
- 324 00:18:43.040 --> 00:18:45.290 of what you would want to know on this topic.
- $325~00{:}18{:}55.270 \dashrightarrow 00{:}18{:}57.071$ Okay. Thank you for that kind of continue to
- $326\ 00:18:57.071 \longrightarrow 00:18:59.920$ or additional information
- 327 00:18:59.920 --> 00:19:01.700 about the track that's really helpful
- $328\ 00:19:01.700 \longrightarrow 00:19:04.356$ and I'm glad you could join us as well
- $329\ 00{:}19{:}04.356 \dashrightarrow 00{:}19{:}06.530$ so that students can meet as many faculty members
- $330\ 00:19:06.530 \longrightarrow 00:19:09.372$ and program team members as possible.
- $331\ 00:19:09.372 \longrightarrow 00:19:12.133$ Are there any other questions at this point?
- 332 00:19:13.428 --> 00:19:16.603 Hi.
- 333 00:19:16.603 --> 00:19:18.172 Hi.
- 334 00:19:18.172 --> 00:19:20.103 Can you see me?
- $335\ 00:19:22.315 --> 00:19:26.180$ Thank you so much for this wonderful presentation.
- $336\ 00{:}19{:}26.180 \dashrightarrow 00{:}19{:}31.180$ I have a question about the first course in the track
- $337\ 00:19:31.900 --> 00:19:34.580$ and I wanted to see if it's built

- $338\ 00:19:34.580$ --> 00:19:39.393 on the elementary introductory epidemiology course.
- $339\ 00:19:44.360 \longrightarrow 00:19:46.470$ I think there'll be some overlap
- 340 00:19:46.470 --> 00:19:49.480 some better concept of stay the same, right?
- 341 00:19:49.480 --> 00:19:52.170 I mean, I think epi designed a pre-approach
- $342\ 00:19:52.170 --> 00:19:55.370\ \mathrm{EPU}$ protocols where the similar
- $343\ 00:19:55.370 --> 00:19:59.110$ but the work to focused on your mental perspective.
- $344\ 00:19:59.110 --> 00:20:02.370$ So how we use these tours for this assessment
- $345\ 00:20:02.370 \longrightarrow 00:20:05.223$ is going to be lying different epi design.
- 346 00:20:06.269 --> 00:20:09.190 I think that they do the overlap, but again
- $347\ 00:20:09.190 \longrightarrow 00:20:11.040$ the focus will be a little different.
- $348\ 00:20:15.057 --> 00:20:17.153$ Thank you so much.
- $349\ 00:20:33.727 \longrightarrow 00:20:34.828$ Do you have any, I can.
- $350\ 00:20:34.828 --> 00:20:36.111$ So there's another question to chat, Dr.
- $351\ 00{:}20{:}36.111 --> 00{:}20{:}39.263$ can you speak more about your work on green chemistry?
- $352\ 00{:}20{:}41.090 --> 00{:}20{:}44.680$ Sure. I'm always happy to, I, you know, I talk so much
- $353\ 00:20:44.680 --> 00:20:46.700$ about green chemistry that people are usually
- $354\ 00:20:46.700 --> 00:20:49.720$ asking not to talk so much on green chemistry.
- $355\ 00:20:49.720 --> 00:20:53.292$ So I'm always happy to accept that invitation.
- $356\ 00{:}20{:}53.292 \to 00{:}20{:}57.640$ So for those of you who don't know what green chemistry is
- $357\,00:20:57.640 --> 00:21:02.640$ it basically takes this concept of the substances that make
- $358\ 00{:}21{:}02.700 \dashrightarrow 00{:}21{:}05.840$ up our society and our economy, everything that we see touch
- $359\ 00:21:05.840 \longrightarrow 00:21:07.950$ and feel pretty much as a chemical.
- $360\ 00{:}21{:}07.950 \dashrightarrow 00{:}21{:}12.950$ So when we think about, Oh, a chemical is something special
- $361\ 00{:}21{:}13.681 \dashrightarrow 00{:}21{:}15.811$ or specific and produced by the chemical industry.

- $362\ 00{:}21{:}15.811 \dashrightarrow 00{:}21{:}20.070$ Now we're surrounded by chemicals and we know
- $363\ 00{:}21{:}20.070 \dashrightarrow 00{:}21{:}22.930$ that chemicals have given us a tremendous amount
- $364\ 00:21:22.930 \longrightarrow 00:21:25.780$ of function, but we also know
- $365\ 00{:}21{:}25.780 {\:-->\:} 00{:}21{:}28.140$ that they've brought about a tremendous amount
- $366\ 00{:}21{:}29.845 \dashrightarrow 00{:}21{:}32.040$ of hazard and risk and a negative consequences.
- 367 00:21:32.040 --> 00:21:34.470 And so what green chemistry is all about
- $368\ 00{:}21{:}34.470 \dashrightarrow 00{:}21{:}39.310$ in its essence is how do you maintain all of the function
- $369\ 00:21:39.310 \longrightarrow 00:21:40.680$ all of the performance, all
- $370\ 00{:}21{:}40.680 \dashrightarrow 00{:}21{:}44.610$ of the near technological miracles that chemicals
- $371\ 00:21:44.610 \longrightarrow 00:21:46.170$ and chemistry has given us
- $372\ 00:21:47.120 \longrightarrow 00:21:50.060$ while eliminating those adverse consequences.
- 373 00:21:50.060 --> 00:21:52.466 So carcinogens and neurotoxins
- $374\ 00{:}21{:}52.466 \dashrightarrow 00{:}21{:}56.737$ endocrine disruption, environmental pollutants.
- $375\ 00:21:56.737 \longrightarrow 00:21:59.340$ And so it's all about the design
- $376\ 00:21:59.340 \longrightarrow 00:22:02.130$ of the next generation products and processes.
- $377\ 00:22:02.130 \longrightarrow 00:22:04.680$ And so we have a center for green chemistry
- $378\ 00:22:04.680 --> 00:22:08.370$ green engineering here touches on a wide range
- $379\ 00:22:08.370 \longrightarrow 00:22:10.189$ of different applications of green chemistry
- $380\ 00:22:10.189 \dots > 00:22:15.189$ and everything from energy to consumer products, cosmetics
- $381\ 00{:}22{:}15.600 \dashrightarrow 00{:}22{:}19.800$ building materials, and architecture, and on and on.
- 382 00:22:19.800 --> 00:22:24.800 So as I, as you can tell, I could go on for a, well
- $383\ 00:22:25.270 \longrightarrow 00:22:27.580$ at least a whole semester about this, if, if you'd let me
- 384 00:22:27.580 --> 00:22:29.543 but I probably ought to stop there.

- $385\ 00:22:43.013 --> 00:22:44.480$ Any other questions
- 386 00:22:49.034 --> 00:22:50.970 You know, as much as I said, I was going to stop
- $387\ 00:22:50.970 \longrightarrow 00:22:53.830$ I'm going to add one or two more sentences.
- $388\ 00:22:53.830 \longrightarrow 00:22:57.900$ So I get to co-teach the, the course on hazard.
- $389\ 00{:}22{:}57.900 \dashrightarrow 00{:}23{:}01.510$ And we think about hazard perhaps too often
- $390\ 00:23:02.972 \longrightarrow 00:23:04.892$ as just the way things are.
- $391\ 00{:}23{:}04.892 \dashrightarrow 00{:}23{:}08.188$ It's just the nature of things, but we dive into hazard
- $392\ 00{:}23{:}08.188 --> 00{:}23{:}12.270$ not just understanding that things are hazardous
- $393\ 00{:}23{:}12.270 \dashrightarrow 00{:}23{:}14.979$ but why they are hazardous the underlying physical
- $394\ 00{:}23{:}14.979 \dashrightarrow 00{:}23{:}19.230$ chemical properties of what makes us substance hazardous
- 395 00:23:19.230 --> 00:23:22.443 what makes it allowed to get into our body.
- $396\ 00:23:22.443 --> 00:23:24.452$ It would be in the adjusted cross
- $397\ 00:23:24.452 \longrightarrow 00:23:26.620$ membranes caused those kinds of problems.
- $398~00:23:26.620 \longrightarrow 00:23:29.390$ And we want to get that deep level understanding
- $399\ 00:23:29.390 \longrightarrow 00:23:32.870$ so we can design new things to be different.
- $400\ 00{:}23{:}32.870 {\: -->\:} 00{:}23{:}36.490$ So that's why understanding hazard is so rather
- $401\ 00{:}23{:}36.490 \dashrightarrow 00{:}23{:}40.030$ than just simply protecting ourselves with masks
- $402\ 00{:}23{:}40.030 \dashrightarrow 00{:}23{:}43.260$ and respirators and personal protective gear and, and
- $403\ 00:23:43.260 \longrightarrow 00:23:46.120$ and saying always use in a well area.
- $404\ 00:23:46.120 \longrightarrow 00:23:48.790$ Instead, we can design things
- $405\ 00:23:48.790 \longrightarrow 00:23:51.640$ so that they are intrinsically less hazardous.
- $406\ 00:23:51.640 \longrightarrow 00:23:55.486$ And so that's, that's the perspective that we bring to
- $407\ 00:23:55.486 \longrightarrow 00:23:57.516$ to that course and throughout the program.
- $408\ 00:23:57.516 --> 00:24:00.371$ I think that your work is a great example

- $409\ 00{:}24{:}00.371 --> 00{:}24{:}05.371$ of really the interdisciplinary perspectives you get
- $410\ 00:24:06.104 \longrightarrow 00:24:08.970$ across the program here.
- $411\ 00{:}24{:}08.970 \dashrightarrow 00{:}24{:}12.240$ I think, you know, that the EHS track and your work
- 412 00:24:12.240 --> 00:24:15.730 in green chemistry really highlights how
- $413\ 00{:}24{:}15.730 \dashrightarrow 00{:}24{:}20.468$ the different schools and programs at Yale crossover a lot.
- 414 00:24:20.468 --> 00:24:22.277 And you're able to kind of bring
- $415\ 00{:}24{:}22.277 \dashrightarrow 00{:}24{:}25.408$ in expertise from different areas across university and
- 41600:24:25.408 --> 00:24:29.370 and how that isn't, you know, really, I guess, evident
- $417\ 00:24:29.370 \longrightarrow 00:24:32.760$ in our on-campus program, but still a great opportunity
- $418\ 00{:}24{:}32.760 --> 00{:}24{:}35.106$ within the executive MPH online, that you're still able
- $419\ 00:24:35.106 \longrightarrow 00:24:37.895$ as a student in the program to engage
- $420\ 00{:}24{:}37.895 {\:{\mbox{--}}}{>} 00{:}24{:}42.895$ with experts and scholars in these really, you know
- $421\ 00:24:43.600 \longrightarrow 00:24:46.630$ interdisciplinary areas of public health work.
- 422 00:24:46.630 --> 00:24:49.490 So we're glad that you are a part of the track
- $423\ 00{:}24{:}49.490 \dashrightarrow 00{:}24{:}52.748$ and I'm part of the program and really highlighting that
- $424\,00{:}24{:}52.748\,\text{--}{>}\,00{:}24{:}55.790$ that true benefit of our MPH and the executive program.
- $425\ 00:24:55.790 \longrightarrow 00:24:57.830$ Yeah, go ahead.
- $426\ 00:24:57.830 \longrightarrow 00:24:58.985$ Go ahead.
- 427 00:24:58.985 --> 00:25:01.706 I was just going to say, thanks for bringing that up
- 428 00:25:01.706 --> 00:25:03.320 because that interdisciplinarity is key
- $429\ 00:25:03.320 \longrightarrow 00:25:06.521$ because the way that the school
- $430\ 00{:}25{:}06.521$ --> $00{:}25{:}09.650$ of public health, you know, coordinates, collaborates

- $431\ 00:25:09.650 --> 00:25:12.900$ and builds with whether it be the school of engineering
- $432\ 00{:}25{:}12.900 \dashrightarrow 00{:}25{:}15.100$ the school of architecture, the school of environment
- $433\ 00:25:15.100 \longrightarrow 00:25:18.220$ especially there's so many interconnections
- 434 00:25:18.220 --> 00:25:20.010 in order to bring about all
- $435\ 00{:}25{:}20.010$ --> $00{:}25{:}22.930$ of those positive consequences for public health.
- $436\ 00:25:22.930 \longrightarrow 00:25:26.943$ And that's what this, this program really emphasizes.
- $437\ 00{:}25{:}28.587 \dashrightarrow 00{:}25{:}33.587$ Yeah. Just add to Paul's point that the, the hardest
- $438\ 00:25:33.850 --> 00:25:37.469$ identification involve some basic mechanistic studies
- $439\ 00:25:37.469 --> 00:25:40.610$ but you can look at it, exposure assessment.
- $440\ 00:25:40.610 \longrightarrow 00:25:42.740$ They only give us association
- 441 00:25:42.740 \rightarrow 00:25:46.040 but we do not know whether these are causal association
- $442\ 00:25:47.173 \longrightarrow 00:25:51.870$ or just association with all the causal effect.
- $443\ 00:25:51.870 \longrightarrow 00:25:54.100$ So the sec that's a, but again
- 444 00:25:55.155 --> 00:25:56.673 we shouldn't need a good technology.
- 445 00:25:58.084 --> 00:25:58.917 You mean high quality data to conclude those
- $446\ 00{:}25{:}58.917 \dashrightarrow 00{:}26{:}01.750$ but the second the cost, how do the identification
- $447\ 00:26:01.750 \longrightarrow 00:26:04.100$ like the doctor and ask the surgeons that we
- 448 00:26:04.100 --> 00:26:06.591 some biological mechanistic study
- $449\ 00{:}26{:}06.591$ --> $00{:}26{:}11.591$ we can pinpoint what chemicals to Pacific chemical evolved
- $450\ 00:26:11.850 --> 00:26:14.092$ in these exposure disease association
- $451\ 00:26:14.092 \longrightarrow 00:26:16.060$ then concreter some call.
- $452\ 00:26:16.060 --> 00:26:19.710$ So you fact, now we can bring this information
- $453\ 00:26:19.710 \longrightarrow 00:26:23.135$ to policy maker, for example
- 454 00:26:23.135 --> 00:26:24.997 one good example, the freedom there

- $455\ 00{:}26{:}25.948 \dashrightarrow 00{:}26{:}28.646$ some contamination in the water, a certain area.
- $456\ 00:26:28.646 \longrightarrow 00:26:29.720$ Then we find some seeing this.
- $457\ 00{:}26{:}29.720 \dashrightarrow 00{:}26{:}34.370$ Then just some policy maker can ask all the people
- $458\ 00:26:34.370 \longrightarrow 00:26:35.560$ leaving that area.
- $459\ 00:26:35.560 --> 00:26:38.374$ They have to get some filter to clean up their water.
- 460 00:26:38.374 --> 00:26:41.851 So I think that's the sway different perspective
- $461\ 00:26:41.851 --> 00:26:45.288$ put together can help us better address
- $462\ 00:26:45.288 \longrightarrow 00:26:48.500$ any environmental related issues with all this.
- $463\ 00:26:48.500 \longrightarrow 00:26:49.750$ So this hallway we design
- $464~00{:}26{:}51.917 \dashrightarrow 00{:}26{:}53.240~I$ think the reason I put these three cultures together
- $465\ 00:26:56.597 \longrightarrow 00:26:57.865$ That's a great way to, to put it in.
- $466\ 00:26:57.865 \longrightarrow 00:27:01.764\ I$ would just add to that, that the philosophy of the
- $467\ 00:27:01.764 \longrightarrow 00:27:05.240$ of the program of the school
- $468\ 00:27:05.240 \longrightarrow 00:27:08.480$ of all of the professors that you'll interact
- $469\ 00:27:08.480 \longrightarrow 00:27:11.720$ with is that yes, we seek to
- $470\ 00{:}27{:}11.720 \dashrightarrow 00{:}27{:}15.228$ to deeply understand these problems deeply, rigorously
- $471\ 00:27:15.228 --> 00:27:17.324$ scientifically understand these problems, but
- $472\ 00{:}27{:}17.324 \dashrightarrow 00{:}27{:}21.542$ the only reason to deeply understand a problem is to inform
- $473\ 00:27:21.542 \longrightarrow 00:27:24.950$ and empower it solution.
- $474\ 00{:}27{:}24.950 {\:{\mbox{--}}}{>}\ 00{:}27{:}28.180$ And so how we take that deep level understanding
- $475\ 00{:}27{:}28.180 \dashrightarrow 00{:}27{:}31.570$ and that's what we're teaching you is the essence
- $476\ 00:27:31.570 \longrightarrow 00:27:32.680$ of how to understand those problems
- $477\ 00:27:32.680 \longrightarrow 00:27:36.260$ in order to inform and empower public health solution.
- 478 00:27:36.260 --> 00:27:38.670 So I think that that's, that's really key

- $479\ 00:27:38.670 --> 00:27:41.620$ and that's the real power of how this program was designed.
- 480 00:27:48.111 --> 00:27:51.653 Well, I'm not seeing any other questions
- $481\ 00:27:51.653 --> 00:27:55.010$ so I wanna thank everyone for joining us today.
- $482\ 00{:}27{:}55.010 \dashrightarrow 00{:}27{:}57.530$ Thank you to our faculty members and program team for being
- $483\ 00:27:57.530 \longrightarrow 00:27:59.892$ on with us to talk a little bit more about the program.
- 484 00:27:59.892 --> 00:28:01.625 As I mentioned
- $485\ 00{:}28{:}01.625 \dashrightarrow 00{:}28{:}05.349$ we have other open house events throughout the week.
- $486\ 00:28:05.349 \longrightarrow 00:28:07.370$ Definitely join us.
- 487 00:28:07.370 --> 00:28:09.120 Hi. Do you have a question to them?
- 488 00:28:11.824 --> 00:28:13.344 Go ahead.
- 489 00:28:13.344 --> 00:28:15.163 Hi, I'm Tom Hayden, really excited.
- 490 00:28:16.360 --> 00:28:18.340 Just, I get excited hearing you talk
- 491 00:28:18.340 --> 00:28:19.980 about environmental health science.
- 492 00:28:19.980 --> 00:28:21.625 So it's, it's a good thing.
- 493 00:28:21.625 --> 00:28:23.250 I'm curious.
- 494 00:28:23.250 --> 00:28:25.689 I, so I'm struggling with, I, I really was focused
- $495\ 00{:}28{:}25.689 \dashrightarrow 00{:}28{:}28.544$ on environmental health, sciences and informatics, and
- $496~00{:}28{:}28.544 \dashrightarrow 00{:}28{:}33.544$ but then there are so many other classes too, and I
- 497 00:28:33.630 --> 00:28:34.760 I'm having a hard time
- $498~00{:}28{:}36.053 \dashrightarrow 00{:}28{:}37.470$ with trying to figure out how to work, you know
- $499~00{:}28{:}39.982 \dashrightarrow 00{:}28{:}42.380$ to get the most out of the experience as well as, and I'm
- $500\ 00:28:43.273 --> 00:28:44.760$ I'm curious for the different
- $501\ 00:28:44.760 \longrightarrow 00:28:46.898$ in the environmental health sciences track
- $502\ 00:28:46.898 \longrightarrow 00:28:50.356$ are you able to take diff
- $503~00{:}28{:}50.356 \dashrightarrow 00{:}28{:}53.890$ I know that some, like with informatics, it's kind of you

- $504\ 00:28:53.890 \longrightarrow 00:28:56.650$ each one builds upon the previous one.
- $505\ 00:28:56.650 \longrightarrow 00:28:58.463$ And so it'd be weird to jump.
- $506\ 00{:}28{:}59.780 {\:-->\:} 00{:}29{:}01.940$ You can't jump into necessarily the third course
- 507 00:29:04.461 --> 00:29:06.691 because you didn't get the prior to
- $508\ 00:29:06.691 --> 00:29:10.676$ or it might not be as easy to follow along
- $509\ 00:29:10.676 \longrightarrow 00:29:12.725$ with the third course as if you weren't in the previous.
- $510\ 00:29:12.725 --> 00:29:14.491$ And so I'm curious with the EHS pro track
- $511\ 00{:}29{:}14.491 \dashrightarrow 00{:}29{:}17.040$ is it possible to actually, you know, if I did the first
- $512\ 00{:}29{:}17.040 \dashrightarrow 00{:}29{:}18.627$ and maybe the third or the second and the third
- 513 00:29:18.627 --> 00:29:20.752 or if I did, you know, or is it that they each, you know
- $514\ 00:29:20.752 \longrightarrow 00:29:24.663$ you need to take each one relate to get two, to do each one.
- $515\ 00:29:24.663 --> 00:29:27.170\ I$ mean, if I wanted to do the third class
- $516\ 00:29:27.170 --> 00:29:30.783$ do I need to take the previous two?
- 517 00:29:32.740 --> 00:29:34.451 But again, my quick response is
- $518\ 00:29:34.451 \longrightarrow 00:29:37.774$ that these are three separate courses.
- $519\ 00:29:37.774 \longrightarrow 00:29:41.627$ The only independent is not just build upon another one.
- 520 00:29:41.627 --> 00:29:44.770 For example, all the tours, talk
- $521\ 00:29:44.770 \longrightarrow 00:29:48.410$ about the one us not to rely on the knowledge, but again
- $522\ 00:29:48.410 --> 00:29:50.829$ the reason we talk about the
- $523~00{:}29{:}50.829 \dashrightarrow 00{:}29{:}52.830$ why we putting all this together, we have scientific link
- $524\ 00:29:52.830 \longrightarrow 00:29:55.763$ the address, the question from different angle
- $525\ 00:29:55.763 --> 00:29:58.636$ but the artists start with independent.
- $526\ 00:29:58.636 --> 00:30:00.803$ The so you can take from one of us or the one
- 527 00:30:00.803 --> 00:30:03.210 cause we used to get management and policy
- $528\ 00:30:04.430 \longrightarrow 00:30:06.463$ but then you kept some question.

- $529\ 00:30:07.306 --> 00:30:08.603$ You mind the, how we get this data.
- $530\ 00:30:10.216 \longrightarrow 00:30:13.000$ But again, that answer by first of course, right
- $531\ 00:30:13.000 \longrightarrow 00:30:15.040$ how we do this first design.
- $532\ 00:30:15.040 \longrightarrow 00:30:16.140$ But if we want to know
- $533\ 00:30:17.031 \longrightarrow 00:30:18.510$ about what is the specific chemical compound
- $534\ 00:30:18.510 --> 00:30:22.490$ what tools people use to ping pong specific aging
- $535\ 00:30:22.490 \longrightarrow 00:30:25.250$ in these exposure is this association
- $536\ 00:30:25.250 \longrightarrow 00:30:27.280$ but that's the second cause of what a cover.
- $537\ 00:30:27.280$ -->00:30:32.280 So I think you can take, take this in different orders
- 538 00:30:33.740 --> 00:30:37.250 in random order, but based on your schedule, but again
- $539\ 00{:}30{:}37.250 \dashrightarrow 00{:}30{:}41.293$ the underlying knowledge underlying link between this.
- 540 00:30:42.271 --> 00:30:43.104 But again, that's the hallway.
- $541~00{:}30{:}43.991 \dashrightarrow 00{:}30{:}45.220$ They adjust the crushing from different perspective
- $542\ 00:30:48.427$ --> 00:30:49.260 but again, you can take the sort of the one first to match.
- 543~00:30:50.585 --> 00:30:52.225 They're all second, I'm gonna take the second one.
- 544 00:30:52.225 --> 00:30:53.513 I don't think it doesn't any, any requirement.
- $545\ 00:30:54.576 \longrightarrow 00:30:55.489$ You have to take these
- 546 00:30:55.489 --> 00:30:56.920 in this order, but Paul, you, you, you
- 547 00:30:56.920 --> 00:30:59.410 you have any, any other suggestions?
- $548\ 00:30:59.410 --> 00:31:01.140$ Well, let me just say there there is
- $549\ 00:31:01.140 --> 00:31:03.810$ and it's actually to be determined
- $550\ 00:31:03.810 \longrightarrow 00:31:05.350$ for environmental health sciences.
- $551\ 00:31:05.350 --> 00:31:09.446$ There will be a specific order of the courses
- $552~00{:}31{:}09.446 \dashrightarrow 00{:}31{:}12.357$ but I think your question Tom has to do with the
- $553\ 00:31:12.357 --> 00:31:16.020$ the knowledge and skills that one would need

- $554\ 00:31:16.020 --> 00:31:18.566$ as a prerequisite to take a course.
- $555\ 00:31:18.566 \longrightarrow 00:31:20.700$ So in the case of VHS
- 556 00:31:20.700 --> 00:31:23.150 I think it's fair to say as professors
- 557~00:31:23.150 --> 00:31:26.530 you said that, you know, you can take the third course
- $558\ 00:31:26.530 \longrightarrow 00:31:28.670$ in the sequence and benefit fully
- $559\ 00:31:28.670 \longrightarrow 00:31:32.020$ without taking the first two for this track.
- 560~00:31:32.020 --> 00:31:34.674 If you're interested in epidemiology, I would say, you know
- $561\ 00:31:34.674 --> 00:31:37.380$ if you're going to be taking the third course
- $562\ 00:31:38.505 \longrightarrow 00:31:41.008$ in that sequence, advanced analytic methods and epi
- $563~00{:}31{:}41.008 \dashrightarrow 00{:}31{:}43.870$ if you didn't have a very, very strong foundation
- $564\ 00:31:43.870 --> 00:31:46.470$ in epidemiology and basic analytic methods
- $565~00{:}31{:}46.470 \dashrightarrow 00{:}31{:}49.490$ it would be a very challenging experience for you.
- $566\ 00:31:49.490 --> 00:31:53.220$ So the question of what you need as a prerequisite
- $567~00{:}31{:}53.220 \dashrightarrow 00{:}31{:}57.080$ you know, as has been said, EHS, wouldn't be one of those
- $568~00{:}31{:}57.080 \dashrightarrow 00{:}32{:}00.926$ in terms of physically, when you would take a course
- 569 00:32:00.926 --> 00:32:03.370 there will be a predefined sequencing
- $570\ 00:32:03.370 \longrightarrow 00:32:05.770$ of when you will be taking the courses.
- 571~00:32:05.770 --> 00:32:08.420 Now, one of the interesting things that I need to think
- $572\ 00:32:08.420 --> 00:32:10.360$ about is that say you're interested
- $573\ 00:32:11.229 --> 00:32:14.160$ in another course not to take it for credit or even audited
- $574~00{:}32{:}14.160 \dashrightarrow 00{:}32{:}17.310$ but just to sort of sort of peek in and view some
- $575\ 00:32:17.310 --> 00:32:20.200$ of the lectures just as sort of a one-off experience
- $576\ 00:32:20.200 --> 00:32:22.670$ You know, I think that's a good question

- $577~00:32:22.670 \longrightarrow 00:32:24.985$ that you didn't ask, but that one that I need to answer.
- $578\ 00:32:24.985 \longrightarrow 00:32:26.970$ So I will actually think
- 579 00:32:28.058 --> 00:32:30.087 about that and consult with my colleagues
- $580~00:32:30.087 \dashrightarrow 00:32:32.588$ because I think there would be a benefit to sort of
- 581 00:32:32.588 --> 00:32:34.688 you know, having a key that you can unlock
- 582 00:32:35.628 --> 00:32:37.862 and you just watch a random video
- $583\ 00{:}32{:}37.862 \dashrightarrow 00{:}32{:}40.570$ for your own interest in edification, not necessarily for
- 584 00:32:40.570 --> 00:32:42.593 credit or for the program sequencing.
- $585\ 00:32:45.150 \longrightarrow 00:32:45.983$ Thank you.
- $586\ 00:32:45.983 \longrightarrow 00:32:47.156$ That sounds great.
- 587~00:32:47.156 --> 00:32:49.410 That's the question that I wish I asked that was, yeah
- $588\ 00:32:49.410 \longrightarrow 00:32:50.243$ thank you.
- $589\ 00:32:57.280 --> 00:33:00.045$ I don't necessarily have a question.
- $590~00{:}33{:}00.045 \dashrightarrow 00{:}33{:}02.386$ I just wanted to say a few things
- $591\ 00:33:02.386$ --> 00:33:03.760 things I wanted to thank you for this presentation.
- 592 00:33:03.760 --> 00:33:05.270 I was coming in, definitely
- $593~00{:}33{:}05.270 \dashrightarrow 00{:}33{:}09.830$ with applying with settled on epidemiology track
- $594~00{:}33{:}09.830 \dashrightarrow 00{:}33{:}12.830$ and I was having a hard time being overwhelmed
- $595\ 00:33:12.830 \longrightarrow 00:33:15.380$ with all these amazing options
- $596\ 00:33:15.380 --> 00:33:17.383$ within the other three tracks.
- 597 00:33:22.662 --> 00:33:25.578 And I think now visiting these sort
- $598~00{:}33{:}25.578 \dashrightarrow 00{:}33{:}27.640$ of informational sessions gave me a lot of clarity
- 599 00:33:28.630 --> 00:33:32.340 on the sup on how I want to supplement my education
- 600 00:33:32.340 --> 00:33:35.584 and my chosen track and epidemiology.

- $601~00{:}33{:}35.584 \dashrightarrow 00{:}33{:}40.370$ And when it comes to new environmental health
- $602\ 00{:}33{:}40.370 \dashrightarrow 00{:}33{:}43.420$ and the effects of environmental pollution pollutants
- $603\ 00:33:43.420 --> 00:33:46.616$ on human health is rings very close to me
- $604\ 00:33:46.616 --> 00:33:50.460$ because I was born slightly a few years
- $605\ 00:33:50.460 \longrightarrow 00:33:55.460$ before Chernobyl explosion in
- $606\ 00:33:56.240 \longrightarrow 00:33:59.070$ on the border of Ukraine and Belarus.
- 607 00:33:59.070 --> 00:34:02.510 I grew up in poster novel environment and it was, I mean
- $608~00{:}34{:}02.510 \dashrightarrow 00{:}34{:}04.510$ everything was awful lives were governed
- $609\ 00:34:05.741$ --> 00:34:10.100 by the often mass of the Chernobyl catastrophe.
- $610\ 00:34:10.100 \longrightarrow 00:34:13.700$ My family had resources to move away temporarily
- $611\ 00:34:13.700 \longrightarrow 00:34:15.100$ but we still had to come back
- 612 00:34:15.100 --> 00:34:17.940 because not all my family could move away.
- 613 00:34:17.940 --> 00:34:20.348 So, and I could, I kept coming
- $614\ 00{:}34{:}20.348 \dashrightarrow 00{:}34{:}24.561$ back year after year and seeing sort of the damages.
- $615\ 00:34:24.561 \longrightarrow 00:34:28.780$ And even though it's almost been 40 years
- $616~00{:}34{:}28.780 \dashrightarrow 00{:}34{:}31.577~\mathrm{I}$ think many substances have different half-life.
- $617\ 00:34:31.577 \longrightarrow 00:34:34.830$ So the scary part is
- $618\ 00:34:34.830 \longrightarrow 00:34:37.400$ that even 50 years there will be another
- $619\ 00:34:38.343 --> 00:34:41.460$ some other element will be radioactive.
- $620\ 00:34:41.460 \longrightarrow 00:34:45.180$ And many of my friends, even
- 621 00:34:45.180 --> 00:34:48.230 though they Mo many of them moved away
- $622\ 00:34:48.230 \longrightarrow 00:34:52.300$ a relocated thyroid cancer followed down
- 623 00:34:52.300 --> 00:34:54.380 some got diagnosed here, you know
- $624\ 00:34:54.380 \longrightarrow 00:34:56.790$ years and years, decades after exposure.
- $625\ 00:34:56.790 \longrightarrow 00:34:59.900$ And I think it will be a huge loss
- $626\ 00:34:59.900 \longrightarrow 00:35:03.480$ for me not to take a class, you know

- 627 00:35:03.480 --> 00:35:08.480 in this track and to get a better understanding
- $628\ 00:35:10.540 --> 00:35:12.663$ on the molecular level potentially.
- 629 00:35:13.557 --> 00:35:17.793 And, and yeah, I guess, to work with
- $630\ 00:35:23.869 \longrightarrow 00:35:28.790$ with all of you or to, to, to work with all of you.
- $631\ 00:35:28.790 \longrightarrow 00:35:31.063$ And I learned from you and
- $632\ 00:35:32.738 \longrightarrow 00:35:35.493$ and learn from your expertise in this field.
- $633\ 00:35:38.670 \longrightarrow 00:35:40.700$ Well, if I could just say
- $634\ 00:35:40.700 \longrightarrow 00:35:42.380$ thank you so much for sharing that
- $635\ 00:35:42.380 --> 00:35:44.769$ because one of the things that I just mentioned is
- $636\ 00:35:44.769 \longrightarrow 00:35:49.769$ that in classes that I, that I teach
- $637\ 00:35:50.408 --> 00:35:51.620$ I also teach undergraduates
- $638\ 00:35:51.620 \longrightarrow 00:35:56.620$ the teaching about Chernobyl teaching, about Bhopal teaching
- $639~00{:}35{:}56.800 \rightarrow 00{:}36{:}00.529$ about these things to them is it is a history lesson
- $640\ 00:36:00.529 --> 00:36:03.090$ and that they have gotten so many
- $641\ 00:36:03.090 \dashrightarrow 00:36:07.470$ of the lessons that we need to know, and we need to build
- $642\ 00{:}36{:}07.470 \dashrightarrow 00{:}36{:}12.470$ into what we do that it's really important to use these
- $643\ 00:36:13.740 \longrightarrow 00:36:15.450$ these events, to understand
- $644~00{:}36{:}15.450 \dashrightarrow 00{:}36{:}18.720$ you know, hazard risk, environmental exposures.
- $645\ 00:36:18.720 \longrightarrow 00:36:21.110$ I, I happen to have done a time
- $646\ 00{:}36{:}21.110 \dashrightarrow 00{:}36{:}24.000$ in the government with president Obama and was in charge
- $647\ 00:36:24.000 --> 00:36:27.256$ of the response to focus Shima the focus Shima meltdown.
- $648~00{:}36{:}27.256 \dashrightarrow 00{:}36{:}31.120$ And so these things are very much high in our
- $649\ 00:36:33.158 \longrightarrow 00:36:34.770$ in our consciousness when we discuss these
- $650\ 00:36:36.174 \longrightarrow 00:36:38.073$ important environmental health issues.

- $651\ 00:36:44.620 \longrightarrow 00:36:45.453$ So thank you.
- $652\ 00:36:46.540 \longrightarrow 00:36:47.373$ Thank you.
- 653 00:36:48.820 --> 00:36:51.378 It's amazing how it, I mean, how it
- 654 00:36:51.378 --> 00:36:54.221 how it is a history lesson, but it's, it's
- 655 00:36:54.221 --> 00:36:59.221 it's still a reality for the populations
- $656\ 00:36:59.921 \longrightarrow 00:37:04.921$ even though it's just not on our minds anymore.
- 657 00:37:05.128 --> 00:37:09.120 Yeah. I mean, I think the initially early
- $658\ 00{:}37{:}09.120 \dashrightarrow 00{:}37{:}12.808$ in early years we had radiation safety class where
- $659\ 00:37:12.808 \longrightarrow 00:37:16.565$ we had to put gas masks on.
- $660\ 00{:}37{:}16.565 {\: \hbox{--}}{>}\ 00{:}37{:}21.565$ And, but even then sort of for a really free really
- $661~00{:}37{:}23.050 {\:{\mbox{--}}\!>} 00{:}37{:}26.170$ really young students as we were really young students
- 662 00:37:26.170 --> 00:37:28.610 it was already a laughing matter, you know
- $663\ 00:37:28.610 --> 00:37:31.710$ because we were all laughing about, you know
- $664\ 00:37:31.710 \longrightarrow 00:37:33.420$ just basically how we
- $665\ 00:37:36.446 \longrightarrow 00:37:37.940$ how we look funny in this gas masks, right.
- $666\ 00:37:37.940 \longrightarrow 00:37:41.723$ More than what is protecting us from.
- $667\ 00:37:45.916 --> 00:37:49.700$ And, and let's, let's be, let's be honest about it
- $668\ 00:37:49.700 \longrightarrow 00:37:51.670$ the young generation of environmentalist.
- $669\ 00{:}37{:}51.670 \dashrightarrow 00{:}37{:}55.350$ So, so, so concerned about how we respond to climate change
- $670\ 00:37:55.350 \longrightarrow 00:37:56.970$ that there'll be happy to say, well
- $671\ 00{:}37{:}56.970 --> 00{:}37{:}59.322$ nuclear is the solution, and let's just go full into nuclear
- $672\ 00{:}37{:}59.322 \dashrightarrow 00{:}38{:}02.930$ and just say, let's be thoughtful about these things.
- $673\ 00{:}38{:}02.930 \dashrightarrow 00{:}38{:}07.678$ So having to provide that product context and
- $674\ 00{:}38{:}07.678 \dashrightarrow 00{:}38{:}11.420$ and letting people know those, those important issues

- $675\ 00:38:11.420 \longrightarrow 00:38:12.970$ I'm so glad that you raised
- $676\ 00:38:14.109 --> 00:38:15.333$ that because it's important to be thoughtful.
- $677\ 00:38:18.470 \longrightarrow 00:38:19.680$ And I think, I mean
- $678\ 00:38:19.680 --> 00:38:23.050$ in terms of Chernobyl is definitely could have been
- $679\ 00:38:23.050 \longrightarrow 00:38:24.980$ we could have learned a lot more
- $680\ 00:38:24.980 \longrightarrow 00:38:27.830$ than we are learning from it now.
- $681\ 00:38:27.830 \longrightarrow 00:38:30.370$ If the government was transparent, because
- $682~00{:}38{:}30.370 \dashrightarrow 00{:}38{:}35.370$ I think the reason why people were forced to forget as soon
- $683\ 00:38:36.229 \longrightarrow 00:38:39.649$ as possible by not providing by
- $684\ 00:38:39.649 \longrightarrow 00:38:42.820$ by hiding the records, medical records, wow.
- $685\ 00:38:42.820$ --> 00:38:47.170 Hundreds of thousands of medical records disappearing.
- $686~00:38:47.170 \longrightarrow 00:38:51.920$ And so that not, not so that the, that couldn't be being
- $687\ 00{:}38{:}52.987 {\:{\mbox{--}}\!>}\ 00{:}38{:}57.987$ between a clear link between the environmental exposure
- $688\ 00:38:58.750 \longrightarrow 00:39:02.258$ and certain cancers, for instance
- $689\ 00:39:02.258 \longrightarrow 00:39:03.840$ or a certain birth defects.
- $690~00{:}39{:}03.840 \dashrightarrow 00{:}39{:}08.390$ Definitely. I mean, even, I think it took a few days to
- 691 00:39:08.390 --> 00:39:11.129 even tell people we were playing outside.
- $692\ 00:39:11.129 \longrightarrow 00:39:14.840$ It rained in many places
- $693\ 00:39:14.840 \longrightarrow 00:39:19.640$ depending on where winds got went, and then the, they
- $694~00:39:19.640 \longrightarrow 00:39:22.923$ it was not the catastrophe wasn't announced for a few days.
- $695~00{:}39{:}34.760 \dashrightarrow 00{:}39{:}38.973$ Any other last questions, comments, topics of discussion.
- $696\ 00:39:44.340 --> 00:39:46.414$ All right, thank you again to everyone.
- 697 00:39:46.414 --> 00:39:47.247 So much.
- 698 00:39:47.247 --> 00:39:49.395 We hope to connect with you

699 00:39:49.395 --> 00:39:53.817 in the coming weeks as always, we're here to help.

 $700\ 00:39:53.817 --> 00:39:56.020$ So don't he sitate at all to reach

701 00:39:56.020 --> 00:39:56.910 out if you have questions, comments, concerns

 $702\ 00:39:56.910 --> 00:39:58.150$ really anything you want to talk

 $703\ 00:39:58.150 \longrightarrow 00:40:01.030$ about in regards to the program.

 $704\ 00:40:01.030 \longrightarrow 00:40:01.980$ We are always here.

 $705~00{:}40{:}03.099 \dashrightarrow 00{:}40{:}04.810$ I know almost all of you already, I've communicated

 $706~00{:}40{:}04.810 \dashrightarrow 00{:}40{:}07.360$ with you have my contact information, but our office

707 00:40:07.360 --> 00:40:10.400 of admissions general contact is a great place to go

 $708~00{:}40{:}10.400$ --> $00{:}40{:}13.819$ and we can help direct you anywhere as needed.

 $709\ 00:40:13.819 \longrightarrow 00:40:15.340$ So thank you all again so much for your time

 $710~00{:}40{:}15.340 \dashrightarrow 00{:}40{:}16.450$ and we hope you have a great rest of the afternoon.

711 00:40:16.450 --> 00:40:18.281 - Thank everyone

712 00:40:18.281 --> 00:40:20.503 - Thank you.