

MODERATED PANEL QUESTIONS

Question 1

What types of training, education, certifications, or credentials are desirable for entry-level positions in your field?

Question 2

What foundational/technical skills are necessary for entry-level positions within your industry?

Question 3

What interpersonal skills are most important in your industry?

Question 4

What does your hiring process look like?

Question 5

What skills/knowledge is being required of new employees to address the latest trends in technology, equipment, regulations, laws, etc.

Question 6

What skills have become obsolete in your industry due to changes in technology, equipment, regulations, laws, etc.?

Question 7

What new technology and/or equipment should we be incorporating into our courses?

Question 8

Where do you see the field of Manufacturing & Engineering going from here?
Important Trends?

Question 9

Based on current trends, what entry-level jobs are available at your company by students graduating from high school or community college?

Question 10

Does your company offer Internships or Apprenticeships? If so, what are the technical/nontechnical skills needed? Also, what type of work do interns participate in?

BREAKOUT / SUB-SECTOR QUESTIONS

Questions for Educators:

Question 1

What changes are currently taking place in your programs on your campus?

Question 2

What technology are you currently using?

Question 3

What new courses and technology do you see in your departments in the next five years?

Question 4

What advice would you give to ROP and high school teachers that would help them better prepare students for transition to community college?

Question 5

What are some of the biggest skills gaps that you have identified within the incoming student population?

Sub-sectors Breakout Groups:

Additive Manufacturing

Engineering & Design

Traditional Manufacturing

Welding

Support Programs/Other (Electrical/Motor Control/PLC/Misc.)

PANEL RESPONSES

Question 1: What types of training, education, certifications, or credentials are desirable for entry-level positions in your field?

Jonathan: Drafting and mechanical. Some engineering background. Old machine knowledge. Grinding experience. Not just CNC. We need more people with hands on skills.

Marylin: We manufacture skylights for high end homes. Need people who are willing to work in all aspects. Aluminum welders. Machinery Know how. Old machines. Blueprint reading. Carpenter skills

Tony: Service. Auto technicians, ASE, from manufacturing, anything entry level we are looking more for character than experience. If you have certs awesome. We hire character and train skills. We tend to retrain our employees. Completion is also a factor.

Question 2: What Foundational/technical skills are necessary for entry-level positions within your industry?

Marian: In general, for manuf. Companies are looking for a welder who also know how to fabricate. Smaller companies are going to want someone who can work with different materials. Cutting skills plasma cutting o

Aldo: When we hire, we look at if they are on time and want to work. We can train them to do what we need. There are always skills that overlap in every industry. Manufacturing is based on speed and time.

Donnie: We are looking for someone who is on time and willing to work. Most of our skills are taught on the job. Need people with enthusiasm.

Questions 3: What interpersonal skills are most important in your industry?

Marian: Teamwork. As a welder you have to know how to work with a team because time is crucial. Workmanship. You can't be sloppy with weld work because of the various certifications and inspections. Keeping your workspace clean and being on time.

Question 4: What does your hiring process look like?

Donnie: We start with a math test to make sure they can measure. They sit in front of a hiring committee. The higher the score is more likely to be brought in.

Marylin: Exit strategy from the start. Want to grow the company, but is also looking for the one person who seems like they may eventually want to take over the company. Someone who will be able to work with all the team and learn.

Tony: We build relationships first. Referrals or educators we have a relationship with. We dive into their background. Make sure they meet at least some of our requirements. Recently did a big campaign hiring from in n out. From there they go into a technical interview. There might be a hiring panel. The manufacturing team has a hiring center where they put a candidate through certain tests. Have the ability to hire 200 in a six-hour process with proper planning.

Questions 5: What skills/knowledge is being required of new employees to address he latest trends in technology, equipment, regulations, laws, etc.

Marian: Knowledge of regulations and laws is a major plus. It seems that this is missing from some of the school programs. Welder needs to understand why they are expected to do certain things under their certification. Most constructions companies will require a certified welder because of building codes.

Aldo: We believe in cross training. We want to make sure everyone knows the ins and outs of other team-mates jobs so that solutions can be found quickly. They can see what it takes to move up and can use the skills in the future even if they don't stay at the company.

Jonathan: it is really hard to give a direct answer because we have so many different types of positions. We have some really basic jobs and very high complex jobs. In all positions knowing how to read a blueprint is really helpful. We have so many different things going on that anyone who can show up on time and be motivated. We try to promote from within.

Questions 6: What skills have become obsolete in your industry due to changes in technology, equipment, regulations, laws, etc.?

Marian: With welding I don't think anything has really become obsolete. I think technology has certainly helped move the industry forward. Basically, the burden to train welders in robotic welders and new technologies seems to fall on the manufacturers and it should

Question 7: What new technology and/or equipment should we be incorporating into our courses? Question 8: Where do you see the field of Manufacturing & Engineering going from here? Important Trends?

Aldo: What we are looking for a lot now is speed. The clients want cheap but made in the USA. We have to find a way to keep the manufacturing in the US, while keeping the speed. One gap that really needs to be bridged is people need to finish the courses in ROP. We need to get our young people into more hands-on training. Making it less book oriented.

Donnie: You can download a set of drawings on an ipad now without even taking out a tape measure. AutoCAD and Revit are huge now in the construction industries.

Jonathan: One of the fastest growing technologies is 3d printers. It helps with building out prototypes. Drafting is another huge space. It is hard to find younger individuals who know the ins and outs of cad programs and drafting programs. For a long time, companies were going overseas to get their products made and now with the way things are trending they are beginning to open up to US companies again. There is no greater joy than being able to look at something and know you were a part of bring that about.

Marylin: 3d printing really helps show our clients how things open and operate.

Tony: The thing I want to stress is just because a program is free doesn't mean its useable. We use AutoCAD and the paid programs. The paid programs are more what the industry is using. SolidWorks is a great standard modeling tool in both automotive and aerospace.

Questions 10: Does your company offer Internships or Apprenticeships? If so, what are the technical/non-technical skills needed? Also, what type of work do interns participate in?

Marian: We do not hire welding interns and we do not really have any

Aldo: We pay the same as if they are a full employee. We have a learning group that shadow positions. We actually hire our apprentices. If we can just let people know there are other options it can really help all the industries out there. We are more than willing to hire anyone that is willing to learn.

Donnie: My union offers a 5-year apprenticeship Program and doesn't cost you anything. We need to change the mindset. You can make a great living in the skilled trade. Knowledge will help you earn a great living, but if you don't have a goal it doesn't help.

Jonathan: We do offer both. We pay up to two years of college. We schedule with schools and colleges for tours of the facility. As far as what skills are needed, we aren't too worried about it. We want them to see new things.

Marylin: I don't have apprenticeships, but I'm okay if they come on and after 90 days it's not a good fit. We want our employees to work hard and to grow. If they don't fit it's okay as long as they took something from it.

Tony: We are doing a combination of everything. We have several factories and apprenticeships is what we find the best way to train. We treat interns as full employees. We expect them to perform at the same level as our current employees. We believe in cross training and have several programs to train students to become the best and the brightest. We are investing in the students and are attempting to bridge the gap. I'm tired of hearing about this gap. I want to just go out and do it. What we do have a shortage of is marketing skilled trade jobs. No one is taking responsibility for what we did to ourselves. We have to convince society that skilled work is still honorable work.

Last Words:

Mariana: For the welding programs to spend money on their educators. It is great that your buying new equipment as needed but we really need to keep up with knowledge base and certifications involved with the new technologies.

Marylin: I think we need to start at the high school level and with the parents. There is this stigma that college is the only way. We need to convince parents and students that there are other routes to success. It's okay to not have a college education. There are great trades out there.

Donnie: I'm willing to work with any schools. My job is to recruit young men and women into the trades. I'm one of those "dumb construction workers" and I make 100k plus a year. Not bad for swinging a hammer.

Q&A

Is solid works the main program to use?

Donnie: Solid Works & Revit

Aldo: CompTIA is expensive but is what will be used in the future.

EDUCATOR RESPONSES / BREAK-OUTS

ADDITIVE MANUFACTURING

Question 1: What courses and changes are currently taking place in your programs on your campus?

High School Report-out:

1. Riverside Vocademy
 - Launching three-month makerspace apprenticeship
 - 3-D printers used to make art and jewelry
2. Palm Springs High School
 - Digital manufacturing class with 3-D printing

Community College Report-out:

1. Chaffey

- Additive manufacturing classes with possible certificate
- Math and science makerspace set to open up with goal of teaching students how things are made
- Need to teach students the 3-D Printing design program not just how to use the printer itself
- InTech is new to additive manufacturing and has found it tough to find teachers

2. Victor Valley College

- 3-D printing, laser cutters, virtual technology with cyber teams

3. Moreno Valley College

- Mobile makerspace bus with nine 3-D printers on board

Industry Report-out:

1. Precision Stampings

- Prototype from 3-D printing has opened doors for them when speaking to customers

Question 2: What technology are you currently using?

Community College Report-out:

1. Chaffey: ProTek Models is using 3-D printing to create massive functional pieces to show in their warehouse

Question 3: What new courses and technology do you see in your departments in the next five years?

High School Report-out:

1. Riverside Vocademy

- Looking at fluid/hydro technology
- Automation programs and apprenticeships in the works

2. PSHS

- Welding pathway morphs to manufacturing
- Hoping to separate two pathways but shrinking enrollment is an issue

Community College Report-out:

1. Chaffey

- Conventional shops
- Pilot welding cohorts with strong workforce funds
- Prototyping with current programs

2. Moreno Valley College

- Partnerships with engineering classes

Question 4: What advice would you give to ROP and high school teachers that would help them better prepare students for transition to community college?

High School Report-out:

1. Riverside Vocademy

- Start young with K-6
- Current requirement of 30hrs soft skill training in programs

2. Palm Springs High School

- Welding skills are phenomenal but students cannot measure on ruler or digital(fraction/decimal)

Community College Report-out:

1. Chaffey

- 3-D printing Engineers/Techs
- Lack of commitment from students at InTech
- Students need to be asked the correct questions to be set up for success

2. Moreno Valley College

- Start early by visiting elementary and middle schools

3. Job Developers (Riverside)

- Soft Skill/Interview Workshops

Question 5: What are some of the biggest skills gaps that you have identified with the incoming student population?

High School Report-out:

1. Riverside Vocademy

- Lazy and entitled students
- Foreign students show much more work ethic than traditional students

Community College Report-out:

1. Chaffey

- Students cannot measure
- Do not know how to use business applications on computer such as PowerPoint and Excel
- Need to close the digital divide

2. Job Developers (Riverside)

- Cell phone usage is a problem

3. MVC

- Students have not been scared yet
- Need better job search/retention skills

Engineering & Design

Question 1: What changes are currently taking place in your programs on your campus?

New principles coming in not wanting to find a teacher to fill the position and closing the course.

- A lot of the qualified people to teach are still in the industry and aren't willing to come out to teach. Need to find qualified teachers.

In some districts everything has to be a pathway and has to be articulated with the colleges.

District pushing for boots on the ground so teachers can up the knowledge and their relevance to what they are teaching. Getting more people for the industry to come in and influence the relevance of the program.

Always looking for internships for the students to be able to go out and learn new skills.

General Automatics a possible lead for externships for programs

Question 2: What Technology are you currently using?

Mastercam, rivet

OnShape.com (runs in chrome book)

- Free to sign up.
- Great for in and outside the classroom

AutoCAD programs

Autodesk

SolidWorks Parametric Modeling is important to teach. Automatically updates the project.

Make sure students learn how to draw in 2d so they can get all the math figured out

3d printing, building them and hobby style CNC machines. If you can take apart and machine and put it back together you know it pretty well.

Titans of CNC. Three videos

Question 3: What new courses and technology do you see in your departments in the next five years?

Quality control equipment to improve quality of production and can get 100K jobs just to know how to run QAC machines.

Investing in aerospace design and engineering

Questions 4: What advice would you give to ROP and high school teachers that would help them better prepare students or transition to community college?

Visit the community colleges to check out what is available to the potential students.

Colleges will often assist in providing these tours.

Get the students past the basics in math.

Help students with their social skills and how it is applicable to the work field

Encourage internship programs so students can get familiar with the work force

Question 5: What are some of the biggest skills gaps that you have identified within the incoming student population?

Math and Reading

The basic fundamentals. Quite often they know the math but don't know how to apply it.

Soft skills. Be willing to show up on time and learn. Enthusiasm.

Integrity. Do what you say what you are going to do.

Be forthcoming with information

Don't be afraid to ask questions.

Other Comments:

Attend chamber meetings. The more your face is there. The more open they are to what you need. They want to see your students and what they are doing. Show them what is happening

ACE mentor program inland empire looking for more schools. Mentors come in to speak and help the kids.

Industry Recommendations:

N/A

TRADITIONAL MANUFACTURING

Question 1: What courses and changes are currently taking place in your programs on your campus?

High School Report-out:

1. Using Mastercam
2. Moreno Valley HS received 3D printers (21)
3. Job shopping
4. Moreno Valley HS has transitioned from a continuation school to a comprehensive school

Community College Report-out:

1. A donation of six milling machines to a community college

Question 2: What technology are you currently using?

High School Report-out:

1. Hands on skills

Community College Report-out:

1. N/A

Industry Recommendations:

Industry/Name: Affordable Plastics and Rivco/SBCO WDD

1. CNC for molds
2. Mastercam is the future
3. Solid working style
4. Solving problems
5. Showing students how to case study
6. Teaching worksite safety
7. Hands on Learning
8. Drafting
9. Programing

Question 3: What new courses and technology do you see in your departments in the next five years?

High School Report-out:

1. N/A

Community College Report-out:

1. Better machines
2. Better programs

Industry Recommendations:

Industry/Name: Affordable Plastics and Rivco/SBCO WDD

1. CNC will always be there
2. Better pay

Question 4: What advice would you give to ROP and high school teachers that would help them better prepare students for transition to community college?

High School Report-out:

1. Teach students how to ask questions. “No Goggle”
2. Teaching parents more options for students
3. Building relationships with employers
4. Job shadowing
5. Self-motivator

Community College Report-out:

1. Teaching better grammar
2. Teaching students how to study
3. Showing students how to think outside of the box

Industry Recommendations:

Industry Name: N/A

Question 5: What are some of the biggest skills gaps that you have identified within the incoming student population?

High School Report-out:

1. Basic soft skills

Community College Report-out:

1. Not knowing the technology
2. Basic soft skills

Industry Recommendations:

Industry Name: Affordable Plastics and Rivco/SBCO WDD N/A

1. Showing up on time
2. Advertising
3. Educate what are the standards of the industry field

WELDING

Question 1: What courses and changes are currently taking place in your programs on your campus?

High School

1. Metal Lab is being updated at Corona HS
2. Colton HS had a \$600,000 CTEIG update (26 booths)
3. Palm Spring HS Skills USA participated in the Inland Solar Challenge great WBL opportunity
4. Val Verde CTE coordinator is networking with employers to write employer specific curriculum, adding adult Ed.

Community College

1. Chaffey Major remodel of the welding building may take a year to complete
2. Victor Valley College 5,000 sq. ft. (D11, structural) new facility there are changes to how academic and CTE curriculum is updated- going to offer a sheet metal class

Industry

1. Local 105- Seeking certified welders with experience on different metals, structural, D11, D91.
2. All interviews will require a demonstration of skill

Question 2: What technology are you currently using?

High School

1. CHS welding simulators
2. Fontana HS CNC plasma and cutter

Question 3: What new courses and technology do you see in your department in the next five years?

High School

1. CHS offers D11 testing to qualified students in the spring, Perkins funding pays for the tests

Community College

1. Courses at CC are revised every two years
2. Victor Valley College is willing to guest speak in high school classrooms
3. Victor Valley College will give ad codes for students with Art credits

Industry

1. Build specialty curriculum for industry
2. Offer certifications attached to training programs
3. Review AWS.org frequently to keep current with industry standards

Question 4: What advice would you give to ROP and high school teachers that would help them better prepare students for transition to community college?

Industry

1. The importance of being on time and present

2. Leave phones in car do not use on worksite

3. Teamwork

Question 5: What are the biggest skills gaps that you have identified within the incoming student population?

No Responses

Additional Comments

Industry

- **Local 105 has a training center with 58 booths willing to provide tours**
- **Local 105 Degrees could be helpful but not required, experience is always a plus**

Deidra Puentes- Recorder, CRY-ROP

James Hattar- Facilitator, CRY-ROP

Christopher Barta, Welding Instructor CRY-ROP

Troy Kuhns, Welding Instructor, Victor Valley College

Gina Boster, Director CTE, Corona-Norco Unified

Doug Henderson, CTE Coordinator, Val Verde Unified

Donny Bennett, Business Representative, SMART Local 105

Rob Moreno, Welding Instructor, Fontana HS

Donna Robinson, Program Manager, CRY-ROP

Vanessa Thomas, Associate Dean Strong Workforce, Chaffey College

Enrique Gutierrez, Welding Educator, College of the Desert

SUPPORT / OTHER

Question 1: What courses and changes are currently taking place in your programs on your campus?

High School Report-out:

1. Steph – They’re helping students discover their skills (more hands on) apprenticeship programs
2. Makers Space – 3D Printing, Biology

Community College Report-out:

1. John – Break up curriculum to help students understand better.
2. Peggy – Upgraded equipment.

Industry Report-out:

1. Sharing Curriculum

Question 2: What technology are you currently using?

High School Report-out:

1. Steph – Automation – Power Tools

Community College Report-out:

1. Accelerated Technology Certificate – allows them to be out on the field and find jobs. Creates exposure. (8-month program)

Industry Report-out:

1. Push more hands on and provide students with answers
2. Teaming up with industries to change parent's mentality on hands on jobs

Question 3: What new courses and technology do you see in your departments in the next five years?

High School Report-out:

1. Steph – Control panel PLC, allows to look at devices and see how things are plugged in. (Robotic arm)

Community College Report-out:

1. Robotics system – Very hands on and there's a job for everyone

Industry Report-out:

None

Question 4: What advice would you give to ROP and high school teachers that would help them better prepare students for transition to community college?

High School Report-out:

1. To look at your options and not just college

Community College Report-out:

1. Start soft skills training earlier

Industry Report-out:

1. Keep options open, not just to attend college

2. Soft skills
3. More exposure early on

Question 5: What are some of the biggest skills gaps that you have identified with the incoming student population?

High School Report-out:

1. Social skills / communication
2. Marketing exposure
3. Career Exposure

Community College Report-out:

1. Basic math skills
2. Not actually holding student's accountable

Industry Report-out:

1. Preparation
2. Coaching