Welcome to the Design Clinic Download. In this podcast, we dig into the experiences of design clinic teams and classmates through the years. I'm your host, Susannah Howe from the Picker Engineering Program at Smith College. This episode features four alums from the class of 2004, Caitlyn Butler, Sarah Culver Davis, Nikki Radford, and Meghan Sheehy. They graduated in the first class of engineering students at Smith and they are about to celebrate their 20th reunion.

Thank you so much for being here today. I'm really excited to talk with you. I can't believe that it has been 20 years since you graduated from Smith.

It hasn't actually. It's only been like, it's only been a few years.

Only been a few years, but I think back to those first days here you were in the inaugural year of this program, which is amazing. So I think we should just start by having you each just say your name and what you're doing currently and then we can dive into some of the things that have happened between now and then. So Caitlyn, why don't you start us off?

Sure. So I am Caitlyn Butler. I am currently an associate professor and the associate department head and graduate program director of Civil and Environmental Engineering at the University of Massachusetts Amherst.

Hi everyone. I'm Nikki Radford. I am an environmental scientist for the Environmental Protection Agency region four, which is the eight southeastern states. I'm in our enforcement and compliance assurance division. I used to inspect a lot under the Clean Air Act, but now I do a lot of other things. I'm kind of a jack of all trades.

Hi everyone. Meghan Sheehy. I am a senior product manager for GE Vernova, which is an energy equipment manufacturing company. We manufacture and design and build equipment from gas power to nuclear power renewables, all onshore offshore wind, solar, hydro work specifically in the systems architecture team where I look to, we are looking to improve variable cost productivity of all of the different engineering equipment we design, and I very much focus in the heat recovery steam generator space.

Hi, I'm Sarah Culver Davis. I am currently the manager and production technical lead in systems engineering for our heavy lift replacement program at Sikorsky Aircraft and we are a helicopter manufacturing company.
Susannah Howe: So I know it's been 20 years and so this may be not top of mind anymore, but I'm curious if you could describe what you did for your Design Clinic project. That was the very first year of Design Clinic and we had five projects and you guys represent three of the different projects that we had happening that year.

Caitlyn Butler: Meghan looked up the title of our project.

Meghan Sheehy: I had trouble remembering and I figured I would fall back on Caitlyn since she knows more about this in her real life job. Anyway, so Caitlyn, take it away.

Caitlyn Butler: So we worked with a company at the time was called Metcalf and Eddy. They've since gone through several name changes, but we were looking at removing nitrogen pollution from the Long Island sound through a process of partial nitrification combined with denitrification to remove all the soluble nitrogen from wastewater effluent before it reached the vulnerable ocean waters.

Susannah Howe: Good memory!

Meghan Sheehy: I've couldn't have said it better myself. Well done.

Caitlyn Butler: I have to teach this stuff!

Meghan Sheehy: I might have to take your class as a reminder.

Susannah Howe: All right, Sarah, how about you?

Sarah Davis: Our project was with the Ford Motor Company and our mission was to include more recyclable material in the Ford F-150. Specifically the end result of our project, I can't remember the specific name, but we came up with a process solution for how to look at opportunities for including more recyclable material in future projects.

Susannah Howe: So Nikki, tell us about your project.

Nikki Radford: I was on the team that worked with the Northampton Department of Public Works. I don't remember what the project was called, but we were designing a sidewalk on a busy road in Northampton and then we also included designing a retaining wall and it included a public meeting and I think that was my biggest takeaway. I mean the design part was really good, but my biggest takeaway was working with the public and actually having to present to a bunch of concerned citizens.

Susannah Howe: And that project got built and there is now a sidewalk along Bridge Road connecting to schools. Yeah.
So thinking back to coming into this class not knowing what to expect, because you were the first group to have had this experience - what were your expectations coming into the class and how did those expectations match the reality of the experience?

Meghan Sheehy:

I was excited. It was like, here we go. This is real work. We're going to be doing very important things. It's going to make us feel really important. And the reality was it was really hard. It was much grittier than classwork. I think we all, you get used to you study, you take a test, you write a paper and this, you have no idea what's coming. Every week is different. Your team member is sick or your liaison from the company you're working with throws you a curve ball. It was not at all what I expected. It was way more challenging, but I think that's really what helped build that was the purpose. That is what helped build our understanding of what it's like to really be an engineer in the real world where you don't really necessarily get that feel from the coursework like you do in a design clinic.

Caitlyn Butler:

I think being part of this class experience, I learned to not have expectations. I don't mean that in a bad way, but I mean we went through so many iterations. I think our curriculum changed three or four times some point we didn't know how many credits we needed to graduate. I remember sitting in the Provost's office before I knew what a Provost was being like, they're trying to squeeze a semester in and we can't do this anyways. There were points in the program, we didn't even know the number of credits we needed to graduate. So there was a letting go of expectations for a lot of coming into classes and knowing, but also an incredible trust in our faculty that you were going to get us to where we needed to go. But I don't know that I had expectations going into Design Clinic to be perfectly honest.

Nikki Radford:

Yeah, I'll say I don't think, I don't remember having any expectations going into Design Clinic. I just remember thinking like, oh, I'm going to work with a group of women for eight months on one project and we're going to get really close and we might have some disagreements, but I think this is real world team building teamwork sort of thing. So it will prepare me for whatever comes next after Smith.

Sarah Davis:

Very simply, you think about, oh, it's going to be great. We're going to have a real project at the end and instead it's the real pieces of project management and continuously replanning readjusting and okay, how do we get something done?

Susannah Howe:

Yeah, that's a great segue, Sarah. Let's talk about that. What are some of the skills that you learned in Design Clinic that you have used since graduating?

Sarah Davis:

Adaptability. You make a plan and then the plans are going to get broken and you have to restart again. And that's just the process and always trying to refocus on what is the end goal and I use that every single day.
Nikki Radford: Yeah, I would say I definitely gained project coordination skills, but I think also technical writing skills. I feel like the engineering program itself, we did a lot of technical writing and I can compare my writing skills to maybe other engineering programs and you guys did a great job, I want to say. So I think really my writing and communication skills from both design clinic and other classes I have really prepared me for what I do now.

Caitlyn Butler: The team working skills. I think at the point we were in senior year, we had already been through a lot of different group experiences, so it was the opportunity to bring all of those different pieces of working in a team together in a space where we had an actual project that we had some ownership on, which was really fantastic. And I think at that point too, we had been through enough that we knew we can get to the other end of the storming phase. We had tools in our toolbox to work through some of those challenges and actually having a space to practice those I think was really useful.

Meghan Sheehy: We touched on this when we first got on the call, but just to expect the unexpected, I think you learned that in that whole year working together that I definitely use every day in my career. We had a team member who was not able to join our final presentation, but we didn't know that. We weren't sure if she was going to be there and it was just that on-the-go pivoting that you have to do in the real world that felt so unbelievable at the time. But I think it's exactly how it is to have a job and work in the real world. The other thing I took from that, I don't know if you remember this Susannah, but our very first report, our team misspelled your name and I think we wrote Susan or something and it was so embarrassing. I felt like we were all so mortified. I can tell you honestly, I have never forgotten that and I check and recheck everyone's name when I email or when I write a report because I remember feeling like I can't believe we did that. So that really stuck with me.

Susannah Howe: That's funny. I don't remember that at all.

Meghan Sheehy: I'm glad to have reminded you of that.

Susannah Howe: That's funny. I wonder if you as a class were especially adaptable and resilient from having gone through four years helping shape this program. I mean helping to create it as you were in it, whether that was something that marks your class in a somewhat different way. Was there something that drew you to the fact that it was a new program that you wanted to be part of helping shape something?

Meghan Sheehy: When we started, we had one professor and one class, one professor, and he was Dr. Domenico Grasso. He was everything to the whole program and he individually brought each of us in. He gave us our pep talks, he was kind of our mentor and our dad all at the same time. So I think he kept us going, but he also constantly asked for feedback and I think that really did help shape us and I
think it also made us a very tight knit group because we felt like we needed to
lean on each other. You couldn't lean on anyone above you or let's say a mentor
who'd gone through the program. So I think we all became very tight in that
sense of how to make this successful individually and as a program.

Sarah Davis: Yeah, I think that's definitely true that we learned and supported each other
through those years. And that stuck with me a lot actually. Ironically, I chose to
go to Smith knowing that I wanted to do engineering and not knowing they
were starting an engineering program. I chose to go to Smith because I wanted
to go to Smith and then I was like, well, yeah, I'd like to do an engineering
program. So I kind of fell into it a little bit differently, but I wouldn't change a
thing.

Nikki Radford: Yeah, I knew I wanted to come to Smith. I was completely undecided on my
major coming in and then I saw that there's an intro to engineering and I was
like, ah, why not? I'll take that class. And so I don't know, I stuck with it. I guess
there were times when I was like, maybe I shouldn't, but I did and I'm really
happy I did. I think being the first class I know in my life I've been very adaptable
and I've been very adaptable at work. I can improvise easily now, and I think
that part of that is my college career. I think this program has shaped a part of
who I am not only as a career but as a person as well. So I'm very thankful that
for Smith and then also for the engineering program.

Susannah Howe: That's great. Were there any things in particular that you found really exciting
about helping shape an experience or things you found especially challenging in
being this first class of engineering students? Yeah, Caitlyn.

Caitlyn Butler: So I think being a faculty now, I know every time I teach a new class, the first
time I teach it is the first pancake you make. It is a pancake. It meets all the
requirements of the breakfast food, but it's not your best pancake. And because
you're learning so much of where the boundaries of the class are and what the
student needs are and how to match those things. And I think about how many
times we were the very first class of something being taught and I am very
grateful for how open faculty were to hearing our feedback and hearing our
experiences and adapting to that. So that's something that has stuck with me
throughout my career is that openness to getting student feedback in real time
as part of the learning process.

Meghan Sheehy: I am not sure if I would've stuck with engineering at a traditional school. I felt
many times that this is not meant for me, but between being in the first class
and feeling a little bit of pressure to prove that this experiment would work, but
also to the people that I was really close with. I mean, I had people who would
not have been happy if I had left and knew if I had left, if I had been maybe at a
larger school and I would've switched majors, I don't think I would've had that
same feeling of belonging that I had at Smith. So that really helped drive me,
and I think I look for that in my career now of having, let's say a tighter group
and really having a good bond with my coworkers. I think that has made it very important in the work I do after Smith.

Caitlyn Butler: Speaking of quitting, there was early on, I can't remember if it was our first or second year, one late night in the green monster, we all started sending Borjana Mikic emails that we were quitting the program. We're all quitting. I think a dozen of us had sent these emails. She showed up at the Green Monster

Meghan Sheehy: at midnight. She walked in in sweatpants that night, and said what's going on?

Susannah Howe: The Green Monster being the temporary engineering building that we were in that had green corrugated metal sides.

Meghan Sheehy: Exactly.

Caitlyn Butler: And she showed up and was like, no,

Meghan Sheehy: You are not quitting. That was great. I forgot about that.

Susannah Howe: And then you didn't, you stuck with it.

Meghan Sheehy: I remember one time Dr. Voss showing up very, very late after a very bad either circuits or signals and systems test. And I just remember she had individual meetings. She would call us out of the computer lab and meet with us and it was like 10 or 11 o'clock at night. But I think we all failed or we all did really poorly. And I think partly like Caitlyn said, the experience of trying to build up the class, trying to learn how to have this class, how this will be shaped, but also they just really cared and we were all kind of in this experiment together and that was what made it really special.

Susannah Howe: Any memorable or impactful Design Clinic experiences that have stuck with you?

Meghan Sheehy: I loved the speakers. I'll just say when we had these Friday speakers, we had women come in to talk about their career or talk about their project or about their life, but was, I looked forward to it every week. It just felt like we were so close to becoming real world people ourselves that it was like I just craved that. What is it like on the other side? How do you work and have a family? Do you suggest going to grad school? And I just loved having that experience too. And then sharing that we were also working on these important projects and it just felt like that was that bridge between being a student to heading out into the real world.

Susannah Howe: What you guys didn't know about those speakers is that when I was hired to do the job, I was told, okay, you run these projects, but just for the class part, just bring in different speakers each week. And I was trying to create assignments
around what the speakers were going to speak about. So I would meet with the speaker in advance of class and find out what they were going to speak about and craft an assignment to go along with it. And then inevitably the speaker would come in and do something different. But I had this assignment ready to go based on what they told me they were going to do and I was trying to match it up and that was pretty crazy.

Caitlyn Butler: I don't think I remember it not matching. So you did a good job.

Meghan Sheehy: I remember only the highlights. I mean that is what I remember as a highlight. So literally the rest was all fine.

Susannah Howe: That's good. That's good. If the rest of it just washes away,

Meghan Sheehy: I don't remember any of the bad.

Susannah Howe: So one of the things that sets your class apart is that there are no Smith alums who have graduated from the engineering program who came ahead of you. So you sort of paved that pathway. And since you've graduated, we've had a lot of alums from the engineering program come back regularly and sit on panels and serve as mentors. And now even more recently serve as Design Clinic liaisons and things like that, which is really fun. I'm curious, to what extent have you stayed in touch with your classmates to keep that cohort alive since you didn't have mentors and role models from earlier Smith classes within engineering?

Meghan Sheehy: Caitlyn's the best at this.

Caitlyn Butler: I don't know. I feel like it's been hard and I think there's 19 of us and we all had really different interests and I think we kind of spread after graduation. So I think when there are touch points to reconnect, I try to leverage those. I think anytime that we do reconnect, it's always wonderful. But yeah, it's hard. I think staying connected and as a cohort, but I think when we are together we do have this kind of very unique shared experience that is nice to share and reflect on.

Nikki Radford: Well I think social media makes it so we can at least kind of see what people are doing in their lives, so that's really nice.

Meghan Sheehy: Even when we all just started talking this evening, it doesn't feel like we haven't spoken in many, many years. It feels like, oh yeah, hi, how's it going? I think, I don't know, there's just something that just stands the test of time. It doesn't feel like it's been 20 years and I feel excited to see who is coming back for our 20 year reunion and I wish everyone would come back. I wish we could get as many as possible.
Susannah Howe: So speaking of 20th reunion, what are you most looking forward to for this upcoming 20th reunion? What are things you want to do or see or people you want to connect with?

Sarah Davis: I think I’m just looking forward to just being re-immersed in Smith. It’s moments like this to just reconnect, rekindle, find out all the exciting things that have been happening in everybody’s lives because everybody’s done really amazing things and it’s a lot of fun.

Meghan Sheehy: I have to say I am very sad the Green Monster’s not there because as much as Ford Hall is beautiful and I really like visiting it, it is strange for me to not have that place. That was so important to us.

Caitlyn Butler: Are we among the few classes that called it the Green Monster?

Susannah Howe: I think so. It later became the Green Box and so it’s more known by others as the Green Box.

Caitlyn Butler: Because I remember Sue being like the "Green Box". I was like, "no, no, no, that’s the Green Monster." And she was like, "no, no, no. That’s the Green Box."

Susannah Howe: Yeah. So I don’t know when it switched from Green Monster to Green Box, but it was Green Box a lot longer than it was Green Monster.

Meghan Sheehy: That’s not right.

Nikki Radford: We had sweatshirts made right with the Green Monster on it.

Caitlyn Butler: Yes, Convocation. We put the sign up under the thing and pulled it down and it said Green Monster.

Meghan Sheehy: When I was thinking about all my favorite memories, they’re all in the Green Monster together. The late nights, it’s like one in the morning, somebody brought a huge stash of candy, half of us are crying, the other ones are giving pep talks. It’s like that was just what kept us going.

Susannah Howe: Alright, so thinking back now, it’s been 20 years, thinking back to your own experience, what advice do you have for future engineering students to make the most of their Smith engineering experience in that? And if you have particular advice specific to Design Clinic, I’d love to hear it.

Caitlyn Butler: I think Smith students have a particularly unique opportunity doing their engineering program in a liberal arts environment. And I think there is so much synergy between engineering and humanities and social sciences and there is an incredible agility in the liberal arts space to access those things. And so my advice to students who are pursuing engineering at Smith is to take advantage
of that. And it's really easy because the engineering curriculum is so intense to not pay attention to those things, but it's so important and it's such a unique opportunity. So that would be my piece of advice. And then specific to Design Clinic, I think it's just to remain flexible and agile to all of the bumps in the road and the non-linear path that is Design Clinic. It will feel hard in the moment, but rewarding at the end.

Sarah Davis: I'll just echo what Caitlyn said. Be adaptable. It likely will not end up the way you thought it was going to be. Like our group who literally changed our end project halfway through and we still made it. So be adaptable, understand what the goal is and then be present in the moment. Share the experience and learn from all of the different pieces of experiences because you will continue to draw on them forever.

Meghan Sheehy: I was going to add that it is very important to leave Ford Hall to go to tea on Fridays. That is something that I think we often would miss because we were staying to work and I think that it's very good to leave and have the tea and come back later. I think I would do that. And as for the Design Clinic, I mean just echoing what everyone said, the difficulty is really the experience, right? It's not meant to be smooth, it's not meant to be easy. And all of those difficulties really are kind of the purpose behind learning what it's like to leave Smith and go to the real world. So I remember the panic of many nights preparing something or preparing for presentations of how it was going to go. And if I could tell myself back then you'd say, this is normal, this is how it's supposed to be and you're going to do fine. So that's what I would recommend.

Nikki Radford: Go see a play, take a class you normally wouldn't take. I took a bunch of dance classes just because I was like, well, I'm using my brain too much and I need to do something physical. So I would take all of those opportunities that you have in a liberal arts college that you wouldn't have, maybe you wouldn't have at a bigger university. And I would say for Design Clinic, just really cherish those relationships that you're building within your team. Really try to keep in touch with all of your classmates or at least your teammates because the people actually make the place. So that's what I would recommend.

Susannah Howe: That's wonderful. That's a great sentiment. Is there anything else you want to share? Any closing words or other things that you haven't had a chance to mention?

Caitlyn Butler: I don't know. I think maybe something that was unique about our time was we ended up having really special relationships with the faculty in a way that I don't know that I have with my students at UMass, right? I mean there's certain students you have more connection with, they work in your research lab or you support them in particular ways. But I think that experience of being part of the first class was different. I feel like I still have a close relationship with many of the faculty there. And part is I'm in the area and I'm also a faculty now. And so
I've leaned on you all for advice at different times. But I think there was a foundation there that really helped me ask for that advice and seek you out for it.

Susannah Howe: And I think likewise, we all feel a special bond with all of you in the first class because we too, we're trying to launch this program and you helped show how successful it was. You really helped turn it into reality. And we are all so proud of you for what you've done and what you've accomplished as you go through your lives and do amazing things. We just sit back with pride and joy and gratitude for helping show us that we were able to make something that had an impact.

Sarah Davis: And then you did it for 20 years in a row.

Meghan Sheehy: I know.

Caitlyn Butler: That's amazing. Think of how many engineering graduates when we graduated there was 19 of us, right? And now there's hundreds,

Susannah Howe: 540 something. Yeah.

Caitlyn Butler: It's incredible.

Susannah Howe: Well, thank you all so much for coming and being part of this podcast. It's been wonderful to reconnect with you and hear your thoughts and your advice and your experiences. And I'm very much looking forward to seeing all of you in person at your 20th reunion. Yay, 20 years!

Meghan Sheehy: Susannah, thank you for having us. I love keeping in touch with you. You're so easy to keep in touch with and I feel like, I don't know, very bonded you being with you for our whole final year. I think that's really made an impact and I'm always happy to see you and chat with you. So looking forward to seeing you in May.