

Ask an Online Graduate Student

- Linda Tinsley (RBE student)
- Daisy Karaiosifoglou (SE Alum)

• 1. What factors into the decision to pursue grad degree online?

- (3:26) Linda: I was looking for a program that I could do online and still continue to work full-time, and I wanted a really good robotics program. So I'd looked at other robotics programs out there, and what I saw was, there were some that were more concentrated on theory, there were some that were concentrated on programming, and then there were some that were concentrated on just pulling together the hardware. But, what I saw at WPI was they actually incorporated all those things in the Robotics program. And I liked that, because at the end of the day I want to build able to build a robot, and I want to have all those pieces come together, and that was why I picked WPI.
- (4:26) Daisy: I work for United Technologies and we have an affiliation with WPI in a number of other programs, but WPI has a great Systems Engineering program, one that I started as in-person and then transitioned to online. And I found that the online allowed me a lot more flexibility in joining new programs and seeing new classes at the same time with other students from other companies or current students overall. So I chose to continue online with WPI because it was really helpful, the way that it's set up is so helpful, there was, you have a, you know, representative that you work with to ensure that you're all set and the program was small enough that you constantly have personal relationships with the professors.

• 2. How much time are you finding that you're spending a week on coursework, and how do you plan your weeks, 'cause you're both working full-time and going to school part-time?

- (5:55) Daisy: I started about one class at a time and probably spent 7-10 hours per class, and then as I felt more comfortable with the program and my work schedule allowed, I bumped it up to two classes a semester, and I found it manageable, even with a full-time schedule, but it's definitely, you spend about 20 hours a week over the two classes. A lot of time is spent with other students. For Systems Engineering, there are a lot of group projects, so we would meet maybe 2-3 times a week so that we were ready and prepared for our deadlines every week, and that probably takes another hour. So, probably max it was around 15 hours per class, especially when you reach your capstone, but in earlier classes it's about 7-10, for me.
- (7:04) Linda: What I found is some classes it was maybe about 10 hours a week, but some of the robotics classes just took more time because you were getting used to a lot of systems. We use MatLab (?) and we use simulations of the robots, so a lot of that was getting used to a lot of different tools, and I think as you move further in the program you already have that capability in terms of the tool usage, so the time would probably go down a little bit, but the way I general it is I work a schedule where we do what's called a 9-80, and what that means is there's one Friday every other week that we're off, and so I have that Friday to take care of everything that I need to do, usually in terms of my courses, but I try and keep up by doing maybe a couple hours each night so that that way I feel like I'm not getting behind and then I can stay up with what's going on.

• 3. How have you communicated with your professor?

- (8:39) Linda: Most of the professors are using Zoom, so they would set up like office meetings different times during the week. Generally most people can attend those meetings, but even if you can't attend the meetings, some of the instructors will tape or you can send the instructor an individual message through email. I found that the instructors are very much about wanting you to understand the material, and for me that was just, wow, that was kind of a wake up, 'cause you find that the instructors really are interested in helping you to understand and master the material,

and they will be there and answer your questions and maybe give you a few more things to think about in the process. So, I found the communication to be very good with the professors.

- **3a. When you say that the faculty would set up office meetings, are you speaking of the office hours that they would hold?**
 - (09:52) Linda: They would hold office hours, but if you needed to communicate with an instructor maybe on a particular topic that for some reason that you just weren't seeing, they would hold a specific office hour for you, so yeah.
 - (10:19) Daisy: Yeah, so, it's interesting our programs are. For Systems Engineering I was always thinking that, when we started classes that we would desperately need office hours, and I found that throughout the program we almost exclusively worked through Canvas to talk to professors, and I've never had an issue. Always professors are replying back within hours, if not within the day, so primarily I ended up using Canvas to speak to professors. Rarely did I ever join an office hour, and when I did it was just for a few people, typically. I found that, frankly, the material was pretty cleanly done and the different programs that we had, and we ended up having less questions than you'd assume, but if you, like, ever had a problem or question or concern, primarily Canvas, and then once in a while we'd also join Zoom calls, so for example, for my capstone there were times when the professor and I would meet together with our team, and so we used Zoom to have those discussions.
- **4. Besides time availability, why did you choose to pursue the degree online as opposed to in person?**
 - (11:55) Linda: The reason why I did it is, with any--depends on how close you live to wherever you're thinking about taking a course. If not, then you're gonna have to get off from work, you're gonna have to drive to wherever the school is, you're gonna have to do your parking, then you're gonna have to get in the building, so I chose it because of the convenience. I just don't have that kind of time to drive to a university, get into the classroom, deal with traffic, so those were some of my reasons.
 - (12:38) Daisy: My job requires some business travel, so I've done the program for two ways. When I started this program, I started it in person, which is great, but as Linda says, you know, your courses are at a certain time, it's a 3-4 hour weekly commitment on, say, like a Tuesday, and although it was nice initially to sort of have that contact, when I transitioned the program to online-only, it gave me a lot more flexibility, so if I needed to travel for business, there was nothing stopping me from throwing meetings or making sure I was available for my team and it allows you the flexibility of joining a lot of different classes, so, again, when I did it in person it was one class decided by WPI and you could see every semester or quarter, and when I was transitioned into online, I had the flexibility of not only taking, say, systems engineering classes, but systems dynamics classes. All of the classes are asynchronous, so although you have a start and end to the week with every class, there's no specific lecture time that you have to meet at, and so you're able to take multiple classes without worrying about any schedule issues.
- **5. What are some of the materials and school equipment that is included in the tuition?**
 - (14:32) Amanda: With tuition, what's included is the class, is the tuition. In addition, you have access to the same resources as our on-campus students, so that's to the library, career development center, disabilities services. In addition, there are additional fees with some software--we do offer some software discounts, but you'll also have to purchase case studies and books. But what's covered in tuition includes the class, the learning management system, and then access to the library, career services, as well as the help desk.

- **6. They're interested to understand what real-life projects, internships, or collaboration with companies is made available that could be used to demonstrate applied knowledge on a resume and to employers.**
 - (16:03) Daisy: I'll talk about United Technologies for a second. UTC and WPI have an existing relationship, and so if you have a project, like a work project that maybe isn't your actual work but maybe is a side project and you have some people in your capstone space where they're all from the same company, that is an option where you could potentially work on that to show how you've used, in my experience in systems engineering, to show the system that you're trying to solve. But my capstone was a little different in that when we chose something not work-related, but that is how you could potentially use it. I would say that you can also potentially use some of your schoolwork to show to different employers rather than, if you can't find a way to get it applied.
 - (17:16) Linda: I'm kind of in a strange place right now in that, the thing that I'm working on--robotics--I'm not necessarily doing that within the company, so I can't really say per se that I'm able to use that other than some of the techniques in terms of simulations that we've done that I have been able to apply some of that.
 - (17:49) Amanda: One thing I can add to this from what we hear from students around projects and internships and collaborations with companies is we do partner with companies, as Daisy was saying earlier, and those are more cohort programs where we'll have a company-sponsored project on a capstone, where they'll work specifically on a company project, where students will research it and come with a solution to the problem and present it back to the company. In addition, we have companies that partner with us for just our open enrollment graduate qualifying projects, so that's in Data Science along with our business courses, where we're able to have a partnership where our graduate students will work on a real-life project. In addition, in systems engineering, they also utilize case studies to utilize within the classroom, and then what we've heard from our students--and Daisy I'm not sure if you can speak towards this--but with them just taking the tools and techniques that are learned within the classroom, they're able to apply them on the job even after they take just one course or two courses without completing [indecipherable]
 - (19:09) Daisy: Yeah, I can tell you how many times I've pulled up my PowerPoints or work from WPI and looked, for example, I'm a business analyst, so I work a lot with different stakeholders, and I took a Requirements Engineering course as part of my program, and I am constantly pulling up those Excels or PowerPoints to understand what I may be missing.
- **7. Did either of you have a research component to your degree? And if so, could you describe the interactions you have had with your advisor, specifically a thesis.**
 - (19:58) Daisy: With Systems Engineering online, you today cannot primarily do a thesis. It's a capstone experience preferred. I will say that I asked if I could do a thesis, and by the point that it became a decision or whether or not I wanted to pursue that, it really didn't make sense to me and my degree, but I'm not sure about other programs. And you can certainly work with the dean to see if that still makes sense for you by this point, by the time you reach the end of your program.
 - (20:58) Amanda: So what we have for online is we offer capstone and graduate-qualifying projects. We do not offer theses for online students as a group. If there is an individual, there are some cases where they will do one-off theses. What happens is you'll have to work with your advisor on identifying someone to be your advisor that matches with your research project, so the individual student would have to work with their current advisor to discuss a topic and then find the support of a faculty to do an independent research project with you. It's not something that we typically see for online. We typically see people do their capstone project.
- **8. What was the deciding factor to choose WPI over other programs?**

- (22:01) Linda: The reason why, which is really kind of funny, why I finally chose WPI was the interaction that I had with the, what do you guys call it? The success manager team. I just felt that everyone was so welcoming and supportive when I applied and I kept asking questions and people would come back and say this or that, and no one seemed to get really, you know, "Oh why do they keep asking this question?" I felt that, hey, you know, if the success team really sounded like WAS a success team, this is kind of the place to go, because I had applied to other places and been accepted, but it kind of seemed like an afterthought, after you were accepted. And I felt at WPI from the initial people that you deal with when you're looking at WPI that this is the place to go. This is where I'm going to be successful. So that was why I eventually chose WPI.
- (23:19) Daisy: I worked with Lori, and Lori was a great success manager, because I also asked a lot of questions, the poor woman. But I chose WPI really because out of the affiliated programs with UTC, it was the best one. I thought the Systems Engineering course loads, the one that you can actually just see on the WPI online site, matched my needs. I was looking for a program that allowed flexibility so that as I got into electives, the potential to see other departments [indecipherable] and that's what I ended up doing for a lot of my electives, and I really did have a great experience.

- **9. Talk a little bit about your experiences [with the student success managers] and how you utilized their services.**

- (24:34) Daisy: My success manager was Lori, so when I started the program, Lori and I met and we discussed my plan, and when I told her that I wanted to do two classes at once, she gave me the advice that I needed, so it was a big collaboration with her. We would meet, at the beginning, every survey that was needed comes out from her from the different classes. As I finished up my program, she was the one that helped make sure that I had all of my paperwork in order so that I could graduate on time. And anytime that you needed to meet with Lori, say, you had an issue with a professor or you weren't sure about a program or something from payroll didn't work correctly so the money didn't go through right, I would reach out to her and she would help to ensure that whatever I needed, she had the right contacts for, and she would reach out to the people both within WPI and within UTC to ensure that I was all set.
- (25:48) Linda: I agree with Daisy. I also worked with Lori. But what I liked, was I wanted to do something a little bit different in terms of the robotics degree. And as we talked a little bit before is I wanted to have that holistic approach, so she helped me figure out what types of systems classes that would actually help me to be able to do that along with the robotics. And so of course we meet back and forth, and as I said, I moved from the Bay area to Ohio, and during that time I was still doing classes, so she helped me to find a class that I could take during all the upheaval of the moving. So, you know, she was involved in the whole thing along the way. I mean, you were never just left out in the cold, and I really like that. And, again, an email to Lori with an issue, and she's back sometimes within a couple of hours, and you're thinking "Wow!" You know, maybe you were thinking another day, but she's back right there within a couple hours with an answer, so pretty good experience all around.

- **10. Linda, talk about your experience with collaboration in your courses.**

- (28:12) Linda: In some of the courses you're allowed to, what'll happen is you'll do an introduction, and there's going to be a project, so from the introduction you can kinda get an idea of people that you might like to work with on a project. And then you send an email and you start to set up your team. In others, the instructor would actually choose people to work together in a team. I think it was, it's kind interesting because each team is a little different, and for the first, maybe, couple of meetings, people get together, try and feel out what different personalities are, what strengths and weaknesses are, and what I found really worked, that way, when we start to do the project, people are put on various areas based on their strengths, and usually they're'll be maybe three or four projects and so people can even trade off on different areas if they, you know, want to try something new. But overall I found it to be very positive, and

what's really funny is, in the past, I was doing face-to-face projects at school, undergraduate, those were a lot more difficult, and I think the difference is because the people in the program are really there because they want to be there and because they want to master the material, and that makes a difference. So, I found, I was pleasantly surprised with the collaborations that I had at WPI.

- (30:06) Daisy: I absolutely agree about the last part. I found that, especially because most students at that point, in my cohort, were full-time employees somewhere, that we were all pretty focused, so in my experience, regardless of how we ended up coming to our groups, typically there were about between 3 and 5 students per class, and it could be that the professor randomized who was meeting with whom, maybe he looked at your schedules to pull it together, sometimes it was our own choice based on maybe previous experiences or again introductions we gave in Canvas. We would meet probably between 2 and 3 times a week. In Systems Engineering you have a deadline every week with your team. I didn't have a class without one--even the capstone, which was great. So you meet to decide who's doing what, you meet to check in and ensure that all of the parts are in good working shape, and potentially meet one more time to figure who's going to turn in the assignment and make sure everyone is aligned, and that's how we ended up working the best in my program.

- **11. Have you applied any of your coursework on the job, and if yes, how?**

- (35:23) Linda: What I've applied, again, I have to come back to the systems. When I came in, there wasn't a department that actually handled how we would handle processes and some quality issues, so after taking a couple of the courses and talking to some of the managers over some of the ideas that I'd come across, I got a promotion to actually start to set up this department, so I really believe that if I didn't take those courses, I wouldn't be in the position I am right now. And so, it was after just a few courses, so it was really kind of exciting.
- (36:21) Daisy: So I work in identity management and cybersecurity, and what systems engineering allows is for you to put a system anywhere, it doesn't have to be just something mechanical--it could be a big organization. So I'm [indecipherable], and the way that the WPI program is broken out, is that you have a course on architecture, you have a course on requirements, another one on the foundations, there's lots of different components of it--testing and validation--so with each component you're understanding the sort of full life-cycle of the system, and we are in the middle of implementing a new system in our department, and so I'm constantly using the skills I've built either to help with requirements or explain maybe some aspects of testing to somebody that's an executive and needs a high-level understanding. I have found every course fits very well against different components of my current job, and I've also used it to expand and --I changed to systems engineering rather than focusing on cybersecurity, for the flexibility it allows, and I've found that it both has helped me at a higher level to work better with executives to explain different concepts, and to allow me to transition to maybe other work or other departments or more technical roles as a specific systems engineer, say for a different mechanical programs that we have today.

- **12. Ever a case where someone would need to take an undergraduate course if they don't have the right background for the program?**

- (40:25) Daisy: I also always wanted to see if I could do more, even if I didn't have the background, and I've always struggled with that, so I have found that it was really important in my career to take a step back, and that in systems engineering specifically I ended up having to use a lot of the knowledge I built from, say, my work experience more than even my undergrad experience. So if that's something that you're going to look into pushing, definitely work with your success manager, but just some feedback that maybe you really do need that background, and it will be super helpful and allow you to have an easier time rather than a more challenging time, potentially.

- **13. What kept you motivated to keep moving forward to complete your degree or to continue to pursue your degree?**

- (41:09) Daisy: I have big career goals, and I really wanted a couple things from my systems engineering degree. One, I actually really wanted to understand the material. I found it very helpful overall. And two, I have big career goals, so my background is computer science. I potentially wanted to take a turn into a different career path with something more technical, and without this degree, and I can't even have those conversations because it doesn't make sense. I don't have the background in order to be successful in those potential new roles. And also for me it has allowed me to remain technical and not to skip to, say, something like an MBA, where super helpful and necessary, but maybe that I'd want to do later on in my life. So, big career goals and a deadline. I just, I love a deadline! I needed to know that, you know, I had a semester. The semesters at WPI are shorter, so, for systems I think it's 10 weeks a quarter, and so everything is pretty fast-paced and there's not that lag of a 16-week course, at least in my role, that maybe you kind of lose motivation. You're constantly working to understand the material. There's constantly a lot of reading or research that you need to do for your project, so there's always something to do, and you've just got to finish it.
- (43:04) Linda: For me, keep moving forward is, I guess there's always something new out there, so that whatever you're building in terms of a project, you can make it better. One of the courses that I had which was really interesting was a concept that I'd never heard of before, which was orthogonal defect classification. It was something I'd never heard of, and to be able to find something new like that that we can use immediately when we're trying to figure out are we ready to release the software, that was wow! I never even heard of that! And the neat thing about that was the actual inventor of the method was the instructor, so it's . . . I guess I'm always finding new things as I approach a course. I think I know what it's gonna be about, but there's always something new or something more that I can understand in terms of depth and what I already know. So that kind of keeps me going forward.