# Transcript: C173

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Speaker #1 (Narrator):

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Speaker #2 (Cemal Tepe):

Hello, welcome to this podcast. We are talking about C173 scripting and programming foundations course in this podcast. We're going to try to address some of the common questions our students have about this specific course. My name is Samal and I'm with my outstanding instructor colleagues here. Cliff, welcome to podcast.

Speaker #3 (Cliff):

Thank you, Samal.

Speaker #2 (Cemal Tepe):

Saed, welcome to podcast.

Speaker #4 (Saed):

Pleasure to be here, Samal.

Speaker #2 (Cemal Tepe):

Very good. Jody, welcome to the podcast.

Speaker #5 (Jody):

Thanks so much.

Speaker #2 (Cemal Tepe):

Marin, welcome to the podcast.

Speaker #6 (Marin):

Hi, thanks for having me Samal.

Speaker #2 (Cemal Tepe):

Great everyone. Our students will certainly appreciate you being here answering their common questions. We know we want to keep this podcast short so let's get started with this generic question. What is C173 about and what should our students expect from this course. Cliff, would you share your thoughts with us on this specific question?

Speaker #3 (Cliff):

Sure, I'll be happy to. This is a fundamental introductory course in computer science and probably the first one the students take part of the curriculum. In this course, there are three areas that is being covered. One and the most important one is about programming languages and the foundations of programming languages. The key components of a programming language. The other one, little comparison between a typical general purpose programming language and a scripting language. How they differ and what they have in common. The third part is a very important one. The process you develop a computer program and that's the process that you need to understand and follow. It's common to all programming languages. It's not very specific to one or the other. Let's start with an introduction to computer programming. I would like to offer you a famous equation that says, programs equal data plus logic. That means any programming language is made of two components; one is data and the other one is logic or algorithm. Data is most of that, if not all coming from outside the computer. The computer needs to know what kind of data is there. Because based on the type it represented in a specific way and it utilizes accordingly. The basic types of data, or simple type of data are integers, character, and what they call decibel in computer term is called floating point. This data usually is called variables. We use also constants in programming languages but rarely. Now, when it comes to the logic part, your fundamental structures that any programming languages has, one of them is statements like for example, I equal 3, or more complex statements such as an expression, a polynomial, for example, a computation. Then a very important construct is a decision block or branching. Where you do an if then else you compare two variables and based on that, true or false, you take different actions. Finally, if there is a group of statements that needs to be executed repeatedly, you use for that what is called loops. Besides that, another important component of any programming language is what you call a function. The function is important because if you have a piece of code that you'll be utilizing in your program multiple times, instead of writing that code over and over again, you capture that inner function and a user define function, so to speak, and just invoke it. It's that simple. Those are the fundamental components of a modern programming language. Now let's take a look to what is called the design or development process of a computer program. This is associated with some people call problem-solving process. With other words, in order to understand what needs to be done, you need to understand what's being asked. What's the problem? If you understand that accordingly, half of the problem is being solved. That understanding is called requirements. It's given to you. The inputs is the old Peter Paradigm input, process, and algorithm. Those inputs are coming in, you understand them, and then based on that you design an algorithm. An algorithm it's a step-by-step process that go from place A to place B or to solve a problem. You do that with the computer programming constructs that we talk about. Statements, iterations, branches, or using function. Now, once you develop the program, it need to be tested. That's the process that sometime becomes more elaborated and you need to learn more advanced techniques. Those are calling you call debugging techniques. Once the program is running, then it's available for people to utilize. That's the course in a high-level quick overview that introduce you to computer programming and then a little bit talking about the difference between programming languages and scripting in particular, Python. That's a language you'll be learning in another class. In this course, you don't let any specific programming language. What you learn is [inaudible 00:06:25] code or structured English that allows you to exemplify the computer constructs we talked about above. Very good. Thanks for the detailed explanation Cliff. Programming is equal to data plus logic and basically problem-solving skills.

Speaker #2 (Cemal Tepe):

Very good. Thank you Cliff on that. Another common question is, how do our students use the knowledge they would gain from this course? Saed, would you mind addressing this question?

Speaker #4 (Saed):

Not at all. How do students use the knowledge they gain from this course? Well, every program or every degree in the IT college has the programming foundations course in it. In our world today, everything in our lives that is digital has programming in it. In our home, in our kitchens, we've got microwaves and even refrigerators and in our garages, at schools, computers in our cars. We've got digital programming, your outdoor watering system, handheld devices, everything. If it's a digital device, it has programming in it. The knowledge is used in two different ways. Non-programming students get a foundation in computer programming and/or scripting. If you really can't get a complete college bachelor's degree without at least some introduction and computer programming. For the programming students which includes a software program and the computer science program, if they have no background in programming at all, that's okay. They're going to learn the basics of programming in this course which Cliff introduced. They're going to learn about variables, control structures, that's the if, else statements and looping structures they'll learn about those. In different data structures like arrays. They're going to learn about functions that Cliff also talked about, algorithms, and then also the software development life cycle. They're going to get a little survey of modern programming languages and what makes them unique and gives each programming language it's identity and characteristics and then troubleshooting their computer programs, debugging that Cliff also mentioned. As a foundation for computer programming with real programming languages like the Python which the programming students are going to have. This course is a good introduction to that Python, Java, C++. That's how they're going to use the knowledge from this course.

Speaker #2 (Cemal Tepe):

Thanks Saed, foundation to all other programming languages, Very good. Thanks for mentioning that. Obviously, after gaining the knowledge, our students need to demonstrate the competency. So the question comes to mind, what is the best approach to get prepared for the exam in this course? Jody, would you take this question?

Speaker #5 (Jody):

Yes, thank you Samal. Learning should really be integrated with the person's life in a comfortable way. It should be fun and enjoyable whether you're studying for some schools or midterm or a final exam, like you have here, or whether you're just preparing for a homework. What C173, Doctor [inaudible 00:09:57], has prepared a wonderful set of webinars. These will help you prepare for that final exam, and it really helps you use that particular sense of hearing and seeing. When one learns, once you incorporate as many senses as they can, this is a little tidbit from psychology that helps reinforce what you've learned in your brain, and the centers of the brain that are stimulated by what you see and what you hear. You can watch those webinars much like you watch your favorite soap opera during the day if you're at home or the evening, those are your favorite evening show. They last for about an hour in time each, and they're probably about 13-14 of them. Also, what you should incorporate in your learning is the reading in the textbook. It has a number of wonderful laboratories you can work through. The answers from the laboratories are available on the course homepage, I believe they're under course tips or the supplemental reading, plus their participation in challenge activities. Working through those, let you use your hands and your eyes, that use of a couple of other senses it helps reinforce that learning and those ideas and concepts. Also take the time and read the book, and as you read the book, I'm going to use a funny term associated with cattle, ruminate over it. Chew on those terms, chew on those ideas. Ruminate is a word that comes from the notion of a cow chewing on it's cud. Just don't read through it and let it go in one eye or one ear and out the other. Take the time and think about what you're reading. If you take the time and look online, you might find at a junior college some tips on effective textbook reading and how one can do it quickly, not necessarily read every word in the book, yet absorb a lot of the concepts that are there. Just search online for tips on college textbook readings and you might find some summaries on how you can do that. Well, Comprehend the information because the value in reading or even watching the webinar is really what you comprehend, and what you comprehend is what will sink in. Now, just another tip from realm of psychology and physiology in all these things that you learn, take some time and enjoy life. Get out and just walk, go by the gym, exercise for a bit. As you exercise, take the time and either good speak out loud. If you talk to yourself a certain way, you're not crazy. That's just what highly complex beings do. That means you're functioning and you're fine, or you can rehearse these concepts in your head, but take the time and think about what you're doing while you're exercising. There's a certain physiological dynamic that goes on when folks walk and talk and think. That all helps with the learning and reinforcing those ideas. In some early Greek philosophers and oracles in history would have all of the folks who are learning from them, their disciples walked behind them, and they would discuss different things. Although you don't have a large group of folks following you that you can talk with, or even though you might not be following someone who's giving a lesson, just take some time and talk with yourself and interact with yourself. Even if you have a younger sibling or a child who might have some interests in what you do, you can take a walk with them and talk about what you do. Now, beyond that certain learning resources that you can use in this course are the Google base quizzes and the vocabulary quiz. Our students who've taken the old saying, the Google based quizzes are very much like content on the objective assessment. So this will give you a good understanding of what you might see plus learning the vocabulary or the terms of any subject tests your field, is very important for doing well in that field. I think that's about it. So take the time and read, take the time and watch, get out and get some exercise that takes the stress off. Remember, this is something that failed that you're entering in something you plan on doing for a while. So you might want to stop and think because if it really isn't fun right now, you don't want to be doing something you find very tedious and a lot of dredge rate for the next 10, 15, or 20 years. Take the time, learn it, learn to love it, and make it very much like a hobby, more so than a profession. Then you really won't work any day in your life as a result. With all that said, taking the time to look over the webinars, do the reading and all the challenge participation activities in the laboratory and working on those vocabulary quiz, and the Google based quizzes will help. Also use a practice test, the pre-assessment for accessing your level of skill, and what you know. Take time and study from that and that will be a very effective way of preparing for the objective assessment.

Speaker #2 (Cemal Tepe):

Really good. I love the phrase. Hearing and see, to learn to love. Very good, Jody. I really love that. Thanks for helping us with that question. Marin, what is the best time to reach out to an instructor?

Speaker #6 (Marin):

I recommend that all students should reach out to the instructor at least once. Those who are new to programming should contact their instructor via email or perhaps schedule an appointment at the beginning of the course. Students with experience in programs should contact instructors before taking the object of assessment for insight on what to expect on the exam. Also, when students have questions reach out to the instructor. Finally, in regards to assessment results, both objective and performance, I highly recommend students reaching out to an instructor if you don't pass to have a second set of eyes to look at the report and see what went wrong. Perhaps assist you in making those corrections for the second submission.

Speaker #2 (Cemal Tepe):

Thanks, Marin, that's great. The other common question is, are there any additional resources, tapes other than zyBooks?

Speaker #6 (Marin):

Yes, we as instructors prepare supplemental resources and our students can access those supplemental resources via cost tips in their course of study. In some of these things were already mentioned by Jody, like pacing guide, terminology quiz, study questions, led solutions as well as recorded webinars. They're all available for our students to succeed. That is all we have in this podcast.

Speaker #2 (Cemal Tepe):

Thanks to my colleagues and thanks to you for listening this conversation. Take care everybody.

Speaker #1 (Narrator):

Schedule time with your instructor to explore more deeply. WGU, a new kind of view.