Respondent 15 Interview

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**SPEAKERS**

Megan Roberts, Respondent 15

**Megan Roberts 00:03**

Cool, it is recording. Okay, so I'm just going to tell you a little bit about my project. So, um, we are redesigning the first year from science module runs in the second semester. So, there's obviously a team of lecturers who are doing that. And I'm basically using the theoretical component of that to do my Masters on.

**Respondent 15 00:33**

Okay, so but you are actually a lecturer in the plant sciences?

**Megan Roberts 00:38**

I am not, I'm a tutor.

**Respondent 15 00:41**

Okay, and what is your field?

**Megan Roberts 00:43**

I'm an ecologist.

**Respondent 15 00:45**

Oh, okay. Yeah. Yeah.

**Megan Roberts 00:48**

So that's what I do. Okay, so I'm just going to ask you 12 questions. And then we can discuss them a little bit, and then we can go from there. Alright, okay. I'm just for my records. Can you just state your area of expertise or your field of research?

**Respondent 15 01:14**

So, I'm a plant ecologist. So, I have a PhD in botany, but my so my, my training has been in botany and the plant ecologist. And but quite a lot of my research is also interdisciplinary. For example, it includes the cultural values people attached to biodiversity. And I have worked on grazing and rangelands, so I do also have quite an interest in the interface between ecology and society.

**Megan Roberts 01:45**

Thank you. Okay, my first question to you is, is plant blindness or a lack of interest in plants a problem in your institution?

**Respondent 15 01:59**

And I would say, yes, so we one of those institutions that struggle to get student numbers in the undergraduate program. And I think it's partly blindness to the role and importance of plants, and also a lack of awareness of the different kinds of careers, that studying something like what new plant sciences can open up, which include things like conservation, environmental management, and so on. And also, how the study of plants find links to other fields of study of interest, for example, entomology, microbiology, environmental science. So, we in our first year, so we have cell biology in the first semester, which is jointly with zoology, and it's for all the life sciences, and including pharmacy as well. And we also have botany 102 in the second semester. And we make quite an effort to introduce you know, what sort of careers can you pursue if you're studying botany, you if you study ecology, and we try to really highlight the importance of plants. And when we do a course evaluation at the end of the year, one of the questions is, you know, this course has high heightened my awareness of the importance of plants, and mostly students really agree. So, they come in knowing very little about why you might want to study plants, they come out with more of that, but then they still mostly flock off to biochemistry and microbiology.

**Megan Roberts 03:40**

Yeah, I think we have a similar problem here in TUKS, as is biochemistry and zoology.

**Respondent 15 03:49**

Right.

**Megan Roberts 03:51**

Okay, I we've sort of touched on this question already. My next question, um, but do you have issues getting students to enroll for your plant science degrees?

**Respondent 15 04:02**

Um, yeah, so it's, it's an ongoing challenge for us to try and get our undergrad student numbers up. So, in first year, we have got quite high numbers. I mean, as I said, the first semester cell biology and that's taken by anybody doing pharmacy or any of the life sciences, really. So, there we have 350 odd students, and botany 102 in the second half of first year, we have now some 150 students, so that's quite a large number. But again, the first-year offerings many of the firsts, many of the majors that they interested in, such as entomology ichthyology, biochemistry, micro, environmental science don't have a first-year course. So, a lot of students do cell biology, botany and zoology as a sort of general basis. And if you want to study in zoology and a couple of other life science subjects, it's compulsory to do botany 102. So, we do actually manage to expose quite a large number of students to first year botany offers to plant sciences. But few of them, say in second year, we typically have less than 30 students some years, even less than 20. And then in third year, it's also between 10 and 20. And we would like that to be double, you know, our targets are something more like 40 2nd year students and 25 3-year students, we're not having huge targets, because, you know, I think realistically, not many more students are going to choose that subject. But that is we would like to be and we have been falling short of that most years.

**Megan Roberts 05:45**

Okay. My next question to you is, then, do you think a first-year plant science module should have a narrow approach covering a few concepts in detail, or a broad approach that touches on multiple concepts within the field?

**Respondent 15 06:07**

Yeah, that's a tricky one. We, I think we sort of tried to hit the sweet spot in that, we do want to give enough of a broad overview that students have a good idea of where they're going with it. But to have within that, a degree of depth, you know, not just to gloss over everything. So, I mean, might be easiest to explain it with what we actually do in our curriculum, because that is the outcome of those exact sort of questions. So, in botany, 102, which is 12, or 13 weeks long. We have two weeks on evolution. So, we introduce natural selection, how the thought of evolution had developed, and also how evolution applies in our everyday lives, like, you know, selection in agriculture, the impact of harvesting on you knows, how that causes natural selection, and so on, then we have three or four weeks on plant diversity. So that's sort of evolution from the lower sort of land plants, the mosses and the lycophytes all the way to the angiosperms. And some of the diversity there, we have three weeks on plant function, which includes different photosynthetic pathways and removal of plant water relations. And then we end off with an introduction to ecology, which just gives an overview of populations, communities, ecosystems with quite a lot of case studies to illustrate how those concepts are applied. So, we try and cover the main topics that we go on within our curriculum. So, in our department, because we're quite a small department, we're only five full time academics our focus is on evolution, ecology and global change, when we don't have, we do have ecophysiology. But we don't have a lot of really gory physiology, we don't have medicinal plants we don't. So, this, we don't have sort of anatomy and so on. So, our focus is on ecology, evolution, and global change. Our expertise is in sort of pollination, ecology, eco physiology. So, we try and set the scene for those topics that we then go on with in second and third year. And we try quite hard to teach some depth of theory, and then to illustrate it with case studies of how people study these things, and also how they're applied in, you know, the real world.

**Megan Roberts 08:54**

Do you think that potentially adding things like medicinal plant sciences and the anatomy side of things would be helpful on a first-year level?

**Respondent 15 09:08**

We touch on it. So, for example, in the first week, the first practical of botany 102, under normal circumstances, when we can teach *insitu* and is a practical on the importance of plants. And that includes quite a lot of you know, these well-known plants in you know, what plant family that are from, you know, what plants are different, well known products made from, but because, because, as I said, we're a small department with five academics, we don't have a whole lot of optional modules, we have a single curriculum, and we've certainly chosen to go for depth over breadth in our curriculum as a whole and to play to our areas of expertise. I mean, we do sort of have a sort of General Agreement on you know, what a curriculum needs to include, you know, students have to come up with some basic understanding of phylogenetics of evolution of ecology of plant function and physiology. We don't have a very strong applied focus just because of who the staff are and what the expertise is. And, but we do try to highlight where things like population ecology community, we know what sort of applications they have in things like conservation, in environmental management, and so on. But the thing with medicinal plants, I mean, so many universities have, we don't have anybody who actually works on that we don't see any point in including it when it's not any of our area of expertise, when it's not really fundamental to the understanding of plants. And we don't have, there's not opportunity to pursue it at the postgraduate level in our department. So, we do try and have an emphasis on those areas. We will also where we do our research, and we our postgraduate programs offer opportunities.

**Megan Roberts 11:07**

Okay, um, my next question, do you have the questions open in front of you?

**Respondent 15 11:15**

Um, yeah.

**Megan Roberts 11:16**

So, question four, which of the following concepts you think should be incorporated into a first-year plant science module?

**Respondent 15 11:30**

Okay, so, evolution, absolutely. And we do that. pathways and transformations of energy and matter. And we actually, that is included in that they learn about the different photosynthetic pathways and supply and water relations, but it goes, we go into quite a bit more depth on that in second year, but it's introduced, and also in cell biology. So, photosynthesis and respiration are also part of cell biology. So, they definitely need to know some of those basics. And information flow exchange and storage. I don't know what you mean, by that you mean in the plant or in the sciences.

**Megan Roberts 12:15**

And so, in the plant, it refers to sort of like the more genetic components of plant science.

**Respondent 15 12:24**

Okay, so that's what I mean, do you do you mean information flow exchange and storage as in like DNA? Or do you mean it and doing science and generating information and databasing? information? So, are you talking about plant biology here? Not the practice of science? Yeah. Yeah. So that we just have a section on DNA, and protein synthesis in cell biology. We don't touch on that, again, explicitly, in the first, in botany 102 in the second semester. But we do have things like we have a module on speciation in third year. But insofar as lacks of DNA and genetics, that is pretty much covered in cell biology and doesn't feature strongly in first year, botany. But we also, we also designed first, your botany, keeping in mind what they have learned in cell biology to complement rather than repeated

**Megan Roberts 13:26**

Yes, yeah.

**Respondent 15 13:27**

Yeah. And structure and function we definitely include in first year, and I think that's really important. So, there isn't an explicit section called that. But for example, the whole section on how plants evolved from the very simple first land plants all the way to the angiosperms, a lot of that is about things like the cuticle about the evolution of vascular system and so on. So, the structure and function are quite an important feature of that. And we link it quite explicitly to evolution. Okay, and then it does also come up in the plant function module, which has got the different photosynthetic pathways that CAM and C4 and there obviously, structure function and physiology are also linked. Yeah. And then systems do come up. not hugely, but so the ecology module, which is the final one includes populations, communities, ecosystems, and it’s a very explicit look at this hierarchy of levels and how they relate to each other and which processes we study at these different levels, but how they also interlink, so it’s kind of actually ends on this idea of systems. And in past years, we've also included a two-week section on the biomes of South Africa, which When I used to teach, and we basically taken it out this year, because the online teaching, we needed everything to stretch out a little. And we're not sure if we're going to start included in the beginning of second year if we still have it in first. But it's really an illustration of the different ecological dynamics of our different vegetation types. And it's really a way of illustrating a lot of these more micro things or photosynthetic pathways, diversity and so on, at a more system's level. So, we do build from evolution through plant function and structure to ecology and systems. So that's really our thinking in how we structure our first year Botany curriculum. And I think I've pretty much covered it. So yeah.

**Megan Roberts 15:55**

So, if you were redesigning your course, and you had to pick two of these that you thought were most important to include, which would you pick?

**Respondent 15 16:14**

It's a tricky one. On the one hand, it could be sort of evolution, and structure and function, because link really nicely. Or evolution and ecology. leaving some of this, yeah, I would probably say evolution and structure and function just because it's quite fundamental. And things like ecology actually rely quite strongly on understanding of those topics. But we like to teach ecology and first year, because of its applications, and because it gives students an idea of careers and opportunities. So, we'd like to expose students to an introduction in ecology, which then, you know, we then build on much more explicitly and second and third year.

**Megan Roberts 17:10**

Yeah. And if you had to pick one that you thought was less important, and could potentially be left to a higher level,

**Respondent 15 17:24**

um, that genetic stuff, and we do cover it in cell biology. And I think it's important that students understand that because it's really fundamental, but in more detail, we leave that to second and third year.

**Megan Roberts 17:42**

Okay, thank you. Um,

**Respondent 15 17:44**

...but it also really, I mean, what we believe is, is that you cannot really separate evolution, structure and function, and ecology, they are so interlinked, because ecology provides the conditions that drive natural selection, structure and function. Without structure and function, you wouldn't have evolution. But without evolution, you wouldn't have structure and function. So, one of the things we really emphasize, and we've actually made a lot of effort for our curriculum to really be cohesive is to emphasize the linkages that you can't, in your mind, compartmentalize evolution as something distinct from structure and function as something distinct from ecology, it's really important that they understand how they link together.

**Megan Roberts 18:35**

I quite link how your curriculum seems to work. I might be a little bit biased, because I am an ecologist as well. But I'm really

**Respondent 15 18:51**

we put a lot of effort in to curriculum, design and curriculum revision in other departments. Yeah, all three years, but in particular, for first year because of our need to get student numbers up, we've made call of efforts to try and make it appealing and so on. But then we also have made a lot of effort to make sure that there is a sort of a logical, built from first to second to third year overall and then within the different disciplines. So, we've actually had sort of departmental meetings to revisit and, and rethink, confirm whatever the curriculum, like every few years. So, for us, this curriculum stuff is really, really important.

**Megan Roberts 19:45**

Okay, moving on to question five. Which of the following threshold competencies Do you think should be incorporated into a first-year plant science module?

**Respondent 15 19:59**

Right, process of science. Yes, I mean, obviously, that gets built considerably in second and third year. But this idea that you, you collect data to test hypotheses, we do introduce that in first year. And we also try to illustrate the sort of textbook stuff that they learn with examples of how people actually research it. You know, I like in my ecology section, I include a whole lot of case studies of what data people have collected, and where they've done it and who they are to actually answer some of these questions. So that we sort of start with that in first year, and obviously build on that strongly. The interdisciplinary nature of science. We don't emphasize that a lot in first year, although we do sort of try and convey like how does botany relate to zoology, entomology and so on. But it's not a formal part of what we assess. For example, we just tried to create a bit of an awareness of that integration of science with society. I suspect we could do more of that. I think it's a tall ask to do all of these things in first year, but I think, again, more of a creation of the awareness rather than making it something to be formally assessed.

**Megan Roberts 21:34**

Yeah.

**Respondent 15 21:36**

Communication we do, you know, writing skills they do for the evolution module, they do posters, with a research real life case studies, like, you know, hunting of Himalayan tars, how that has shifted certain characteristics, and whatever. So, they do these posters, and they do presentations, we get them to write prac reports. And we tried, I used we actually have a field trip we have had until last year, and weekend long field trip where they actually go and stay and collect data and analyze and write a report is becoming quite challenging. Because our first-year class has grown from 45 students when I started in 2003 to 150 and it’s becoming a bit unwieldy. But this idea of collecting data. Yeah, so I guess that speaks to process of science as well, this idea of collecting data, analyzing data, communicating it. We try we build that from first year, because it's to us absolutely core. Collaboration, yes, they have to do a bit of group work, they don't always really like it. And we don't do it a lot. Some, I know some courses that use group work a lot just to actually cut down on marketing and so on. And we try and avoid that. But we do they do in botany, one in a typical year have to at least so the field trip and its exercises and the evolution posters are two things that they have to do in groups, and understand and interpret data. Absolutely. That's kind of something that runs throughout the course, in the curriculum. And quantitative competency, also, I mean, we wish we could do more in first year, I mean, this is just such a tradeoff, you know, there's so many hours you can expect students to put in and a lot of that is spent on you know, content and so on. But he is quantitative competency, getting them to do some calculations and so on. It's pretty important for us in first year as well.

**Megan Roberts 23:46**

Okay, I'm going to ask you to pick a top two again.

**Respondent 15 23:51**

Um, okay, so my top four and they overlap, but we can then whittle them down our process of science, communication, understand and interpret data and quantitative competency. they overlap to some because you know, you kind of understand interpret data without quantitative competency. So, but I guess if I had to pick process of science includes a lot of those. And communication, I think those are in the sense that process of sciences includes some of understand and interpret data and quantitative. I mean, I think you get what I'm trying to narrow. Yeah, I think the interdisciplinary nature, the integration with society, and the collaboration are nice to have. I don't think they're as crucial as those other ones. I think the other ones are more foundational. Okay,

**Megan Roberts 24:56**

and one that you think could potentially We left out on a first-year level?

**Respondent 15 25:10**

I don't think any should be left out altogether. But speaking from what we teach the interdisciplinary, I mean, the interdisciplinary nature of science, I guess. It depends on how interdisciplinary are you talking ecology versus eco physiology? Are you talking about botany versus anthropology? Because certainly the really broad interdisciplinary stuff, I think can be left out of a first-year curriculum. Although I would like for students to have an awareness that is out there, and that it will come into their studies and careers. Yeah. And the same of integration of science with society overall, I find that really important. I'm not sure that it's crucial in first year to formally teach and assess, although I would like them to have an awareness and exposure. Yeah.

**Megan Roberts 26:10**

Okay. My next question. Question seven. Have you ever heard about vision change? before I contacted you?

**Respondent 15 26:23**

So, you're talking about I mean, I've opened the link, the one that's from the American Association for the Advancement of Science, yes, that particular I may have come across this, but no, not really.

**Megan Roberts 26:42**

Did you think? Did you really like to look at it or just sort of glanced over it?

**Respondent 15 26:50**

I have to admit, I sort of glanced through it. But I sort of broadly agree with it. And I think, the way we have approached our curriculum and the way I mean all of us in our departments have done or we've got a couple of new staff members who haven't yet but we have got the turtle for short the Center for higher education, research and teaching and learning. So basically, our sort of overarching department that supports lecturers in their teaching and learning where you do your assessors and teaching and learning courses and so on. So, what we learned the at the end Rhodes has general philosophy towards teaching and learning and the way we've tackled, I think it's quite in line with that, that idea that there's content and competency Theory and Applications and so on.

**Megan Roberts 27:47**

Okay, and then we can move on to question eight, what do you think the barriers to changing the first-year curriculum will be?

**Respondent 15 27:59**

Um, so we are very fortunate in our department that we are small, and we see eye to eye, and roads doesn't have a lot of formal barriers to changing the curriculum, you know, we can have a meeting to decide what we're going to teach. And we just put the new calendar entry through the Faculty of Science. And so compared to colleagues that I've chatted to from other universities, we have got very little structural or formal barriers that say, that make it difficult to make changes in the curriculum. So, for us, the barriers would be more to do with the fact that we're a small department, and that limits how much different expertise we have. So, for example, I would love to have more soil science, in our sort of undergrad curriculum, not necessary the first-year curriculum, but we've got to also work to our strength. So you know, if we, if we were to decide that, and that, to me is absolutely crucial, we would have to sort of decide on who of us would actually brush up enough on it, to teach it convincingly at first your level, but in terms of these areas that you've questioned me about and that are part of this vision and change, you know, evolution pathways, blah, blah, blah, we could cover those and actually, we haven't really experienced much in the way of strong barriers because we've always as a department being very open to making changes, evaluating how they work and working together towards that common goal. I think, in our department, we've been fortunate compared to many others that they haven't been barriers from like the dean or from, you know, the institution and they haven't been barriers in the sense that they are staff who just not interested.

**Megan Roberts 29:58**

Yeah. Okay, um, suggestions as to how we might overcome some of the barriers that we might face? Staff that are unwilling or so on?

**Respondent 15 30:18**

I mean, I guess some of the barriers are also student numbers and student preparedness. So, for example, we might have ideas of what we want to cover in the first year. Now, for example, in terms of quantitative reasoning, so I actually, I guess, our biggest barrier is the numbers and preparedness of students. So, for example, we really love doing our field trip and getting them hands on experience of doing science, the bigger the class, the poorer they are prepared, the harder it becomes to do it in the depth that we would like to. And I guess, the how, one overcomes that is to really have a good open discussion within the department and also with cognate disciplines to sort of find, what are the priorities? And how can you do the most meaningful and constructive version of that, given the constraints that you have? So, you know, if you have, for example, students that come into the university with poor math and poor quantitative reasoning, as I'm sure you're probably experiencing, as well, yeah, you know, don't force what your ideal is, but then rather think of that ideal that you would like your first years to do? What is the most important? And then how do you build that and adapt that to the students. So that has to be really responsive to the student body, because otherwise, it just becomes incredibly frustrating for all concerns. And rather than sort of seeing that there's some big deficiency and we can't do it properly, and we are dumbing down, as some people like to say, it's more than about, what do we want our students to come out with? And given what, you know, who we working with? How do we find the most effective and appropriate way to build the foundational core skills, you know, on the basis that we can carry on building them in second and third year, if we've given them an appropriate foundation in the first year?

**Megan Roberts 32:25**

in terms of lectures, what kind of resistance would you foresee if a change was being introduced?

**Respondent 15 32:35**

Um, in my experience, so, we have had more of these barriers, for example, in cell biology, where we are teaching together with zoology, and they also have cultural differences between the departments and so on. So, then it becomes much harder. And yeah, lecturers might not all agree on what the important priorities are, and so on. One resistance I sort of have come across is that people worry about what they call dumbing down, and, and resist dumbing down when actually what needs to be done is maybe just doing things a different way so that it builds more effectively from where students come into where we want them to get. Yeah, um, so I think that is a challenge. Some, some lecturers just don't like this idea of doing things differently than we did, like five or 10 years ago, on the basis that it constitutes, dumbing down or cutting content or whatever. Yeah, and how one sort of, I mean, I guess the only way to really work with that is to come up with some good proposals to pilot some of that. So, you know, rather than change the entire course to say like, how about instead of right, getting them to write a 3000-word essay in one go? How about breaking the task down and so on, and trialing it and actually see if it works? I mean, that's really the only way to get people on board is to come up with a good plan for you know, the first step and to actually try it, and see if it works.

**Megan Roberts 34:19**

Yeah. Okay, um, what could potentially be a good selling angle for us to motivate people can be willing to take part in the change process.

**Respondent 15 34:35**

Um, I mean, for us, since our big concern is getting student numbers up, but then also having enough you know, botany students coming through the system to feed into our Honors to feed into our post grad and research programs. It's really that incentive that if we can get things right if we can get students learning effectively If we can get students coming out with the right competencies and so on, it'll benefit us in terms of getting our numbers up getting our FTEs getting our honors class filled getting our research program. So, for us, the big motivation is that if we can have students come out more competent, it'll benefits our department and our research in the long run. Yeah.

**Megan Roberts 35:27**

Do you find that at Rhodes, you have a greater intake for post grad students than for undergrad students?

**Respondent 15 35:39**

Yeah, so what's quite interesting is, once they've once we've asked the students that are in third year, we often don't have we have a reasonable retention into honors, at least of the ones that are, you know, good enough to do, although some also choose the other major. Yeah. But we do also try and accept external honors. So we hope to attract and, and accept where feasible, external honors students, and then we do have post grads coming in from other universities. So it sometimes feels that the battle to get students into second year is a harder battle than to keep them into honors and to recruit them into honors and post grad. Yeah, that's not to say we've got really high numbers. And of course, then you've got the constraints of finding, you know, the research, funding, the bursaries and so on, there's so many things that conspired to make it challenging. Yes, yeah.

**Megan Roberts** 36:36

The reason I was asking is because we find we have a much harder time getting them into our undergrad courses than our post grad courses. No, I was just wondering if it was the same at Rhodes.

**Respondent 15** 36:53

Yep. Okay, continue. Nothing.

**Megan Roberts** 36:59

And my final question to you is, then how important do you think hands on practical sessions are for first year plant science course?

**Respondent 15 37:09**

The absolutely crucial. I mean, this year has shown us how much we've missed out by not having it. And as I said, you know, we take our students on field trips, even in first year, just because we want them to get an experience of doing science and not just reading about it, and watching videos about it, and so on. Yeah. So even with this year, we were obviously not able to have the laboratory pracs. But we still tried to get them to do some exercises where they had to collect some plants, take some photos, I had a practical on Grimes’s life history strategies. And we normally I would do it here in the Botanical Gardens with the demonstrators. Now I just gave them an introductory video, and they still have a science demonstrator, and they actually had to go and do it on their own. At home, find three species of plants go through the criteria to try and categorize them. And the students really liked those hands-on practice. I don't think you can teach science without doing science, even in first year. Yeah. But given the constraints of higher student numbers, and given the constraints of finding ourselves having to do online teaching, at least some of the time, one has to just find ways of being able to do it, that is still feasible. But yes, I think hands on practical sessions are definitely first prize. And I think, completely without them. I mean, we've had students coming into honors that had studied at Unisa, and had much less of the practical stuff. And you can see the difference in background, but also just how much they relish to be able to do science once they got here.

**Megan Roberts 39:05**

Yeah. Do you have any suggestions as to practice that we could potentially run or skills that you think are potentially particularly important to potentially include in our practical sessions?

**Respondent 15 39:28**

I mean, for me, like a good practical program, and I mean, is one way the exercise has a clear link to the lecture content, so that they make a connection between what's taught in the lecture and what they learn in the prac. And I find certainly for ecology, the pracs that really works the best or something like the grime, because the students find the theory quite intuitive. But then you having to take the Words the broad words of competition and whatever, and fast growth and tried to actually look at qualitative and quantitative traits of plants to actually assess, and school. So, any kind of practice that bridges that real life abstraction, numerical skill analysis, interpretation, not necessarily all of it, but that takes aspects of that. And what we also do in our departments, with the first year curriculum, but actually with the curriculum all the way through the first three years, it's just a, you know, these are the competencies we want to build, which cause which parts of the curriculum, you know, instead of everybody trying to get them to write to do this to that, it's more about in our, this semester, who's doing an essay who's doing what, so that we have a sense that between our different modules, they gain exposure to process of science, they get exposure to interpreting data, they get exposure to, you know, stats, or modeling or whatever, at an appropriate level. So, it's hard to say like a concrete thing. I just think it's really nice to have a balance of some lab work, some outdoors field stuff, some sitting in front of the computer, and using Excel, some writing and to try and break it up in first year. So, they don't have to, in one prac acquire, like, four different skills, but emphasize one, and ultimately, do them one by one and sort of link them up if that makes any sense. Yeah. Yeah.

**Megan Roberts 41:44**

Okay, thank you. Um, that's all from my side. In terms of my questions. Do you have anything that you would like to add or any questions for me?

**Respondent 15 41:55**

Um, no, not really. I'd be interested to know what you teach in first year.

**Megan Roberts 42:01**

Yeah, so I tutor first year molecular cell biology that runs in the first semester. And then also shooter first year plant science, which runs in the second semester.

**Respondent 15 42:14**

Yeah. So, what do you put in your first year Plant Sciences in the second semester, what's just like a broad outline of what topics you cover, I just be interested to know how that compares to what we're doing?

**Megan Roberts 42:26**

So, we are currently doing basically puts up everything that's in our department. So, we have a section of it on ecology, we have a section on diversity and taxonomy. Have a section on medicinal plant sciences, and then anatomy and physiology. And then we also have another section, which is on sort of the photosynthetic pathways and stuff like that. But that's more covered in molecular cell biology, which runs in the first semester.

**Respondent 15 43:03**

Right, so it's also sort of an idea is to sort of give them an overview and sort of showcase for the front lines that will continue in in second and third year.

**Megan Roberts 43:13**

Yeah. So, our second-year modules, we have two, the first one is just ecology that runs in the first semester. That's biomes, and all the different type theory, components to ecology. And then we have this little plant sciences and sort of biochemistry in the second semester, second year.

**Respondent 15 43:42**

Okay, and then in third year, is that when you do things like systematics and

**Megan Roberts 43:45**

Yes, yeah, so our first- and second-year modules are all compulsory to anyone that's under a biological sciences degree. So, in terms of enrollment for that we don't really battle because they sort of have to take it.

**Respondent 15 44:00**

It's first second year you teach ecology and medicinal plant so you don't do physiology and systematics in second year at all.

**Megan Roberts 44:08**

A bit of it does fall into two modules, but we really won't touch on it in third year.

**Respondent 15 44:19**

No, that's interesting.

**Megan Roberts 44:21**

So, then we have two other medicinal plant science modules, two other plants, ecology modules, and then the systematics and diversity module in third year.

**Respondent 15 44:32**

And students do they do all of them will do they choose or not so selection of them.

**Megan Roberts 44:37**

You can choose a selection of them. So, for instance, I did my undergrad in ecology. So, I did the two ecology modules and the taxonomy module. And then I followed up with geology modules that are also ecology modules. And the medicinal plant science kids tend to take the medicinal plant science module and then biochemistry module. All right. Yeah.

**Respondent 15 45:02**

So, is the module one semester long?

**Megan Roberts 45:05**

no, they're all Yeah, yeah. All one semester long. Yeah.

**Respondent 15 45:09**

Okay, so because you did obviously in third year, then do two in the first semester and to the second semester to get the credits.

**Megan Roberts 45:18**

Yeah, we're supposed to have eight modules in our final year. So, four, four.

**Respondent 15 45:24**

Okay, so there might be a semester long, but they're not. They you do four at a time, then?

**Megan Roberts 45:31**

Yes, yeah.

**Respondent 15 45:34**

Okay, so they're not every day with one track a week, there must obviously be a little bit.

**Megan Roberts 45:40**

We typically do have one pack a week and our third year, even actually, from first year we pretty much had

**Respondent 15 45:47**

the winning with so when you in third year, do you have four packs a week? Yes, we did.

**Megan Roberts 45:56**

We had a lot of practice, there was a lot of prep

**Respondent 15 45:58**

work. And do you do a research project in third year? No, no. Yeah, we actually ended partly by virtue of our low numbers. But our third-year students do they do their own yearlong project, which is like an honors project, just obviously not as high expectation. So that's the yearlong project which they are supposed to devote time to in the course of the year.

**Megan Roberts 46:25**

Yeah. We do have in some of our modules, we will be given a research project, but then it's really tiny. So, it'll be the set of six months at the module runs. So, for the taxonomy module, we had to do that. Prop blocker is that module. For him, we had to do like a small research assignment thing and then that last of the semester, and then that was that.

**Respondent 15 46:54**

Cool. All right. Well, not talking to you.

**Megan Roberts 47:00**

It was as well thank you again for agreeing to participate. I really do appreciate it.

**Respondent 15 47:06**

No worries. Okay, Megan can say Hi, nice title, Nigel.