ECAR Study:
Students and Technology

University of Cape Town • iYunivesithi yaseKapa • Universiteit van Kaapstad •

2016 UCT results

STUDENT STUDY 2016

In 2016, ECAR collaborated with 183 institutions to collect responses from 71,641 undergraduate students about their technology experiences. The findings in this snapshot were developed using a representative sample of 10,000 students from 153 U.S. colleges and universities.
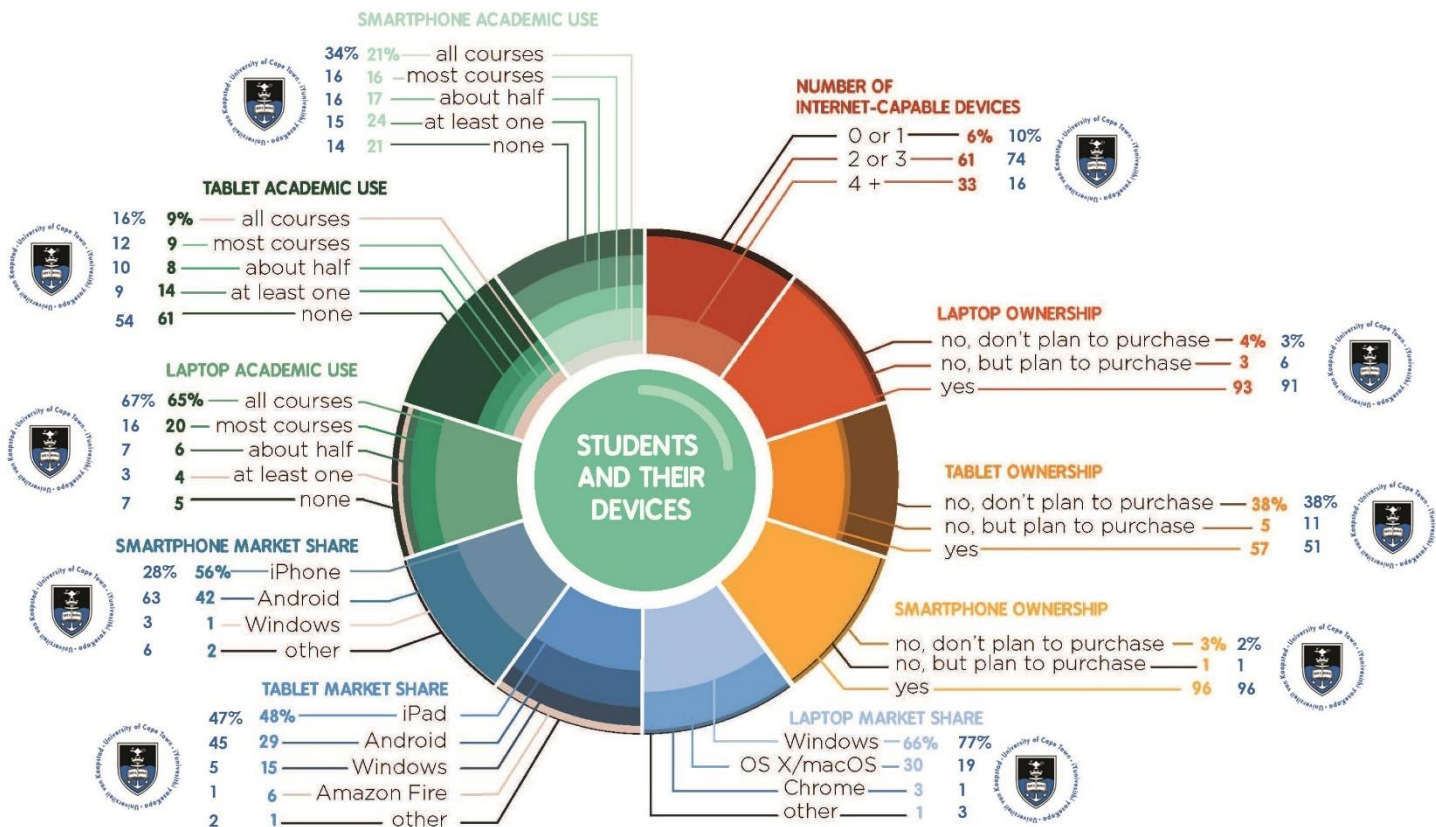
915 participants

50% **46%** of students say they get more actively involved in courses that use technology.

75% **78%** of students agree that the use of technology contributes to the successful completion of courses.

TECHNOLOGY IS PERVASIVE IN THE LIVES OF STUDENTS:

SMARTPHONE ACADEMIC USE
34%	21%	all courses
16	16	most courses
16	17	about half
15	24	at least one
14	21	none

TABLET ACADEMIC USE
16%	9%	all courses
12	9	most courses
10	8	about half
9	14	at least one
54	61	none

LAPTOP ACADEMIC USE
67%	65%	all courses
16	20	most courses
7	6	about half
3	4	at least one
7	5	none

SMARTPHONE MARKET SHARE
28%	56%	iPhone
63	42	Android
3	1	Windows
6	2	other

TABLET MARKET SHARE
47%	48%	iPad
45	29	Android
5	15	Windows
1	6	Amazon Fire
2	1	other

NUMBER OF INTERNET-CAPABLE DEVICES
0 or 1	6%	10%
2 or 3	61	74
4 +	33	16

LAPTOP OWNERSHIP
no, don't plan to purchase	4%	3%
no, but plan to purchase	3	6
yes	93	91

TABLET OWNERSHIP
no, don't plan to purchase	38%	38%
no, but plan to purchase	5	11
yes	57	51

SMARTPHONE OWNERSHIP
no, don't plan to purchase	3%	2%
no, but plan to purchase	1	1
yes	96	96

LAPTOP MARKET SHARE
Windows	66%	77%
OS X/macOS	30	19
Chrome	3	1
other	1	3

STUDENTS AND THEIR DEVICES

Modeled after the Bill and Melinda Gates Foundation's "America as 100 College Students," created by designer Eleanor Lutz and journalist Linda Kennedy for The Gates Foundation.
http://postsecondary.gatesfoundation.org/areas-of-focus/incentives/america-as-100-college-students/

use

- 100%
- 75
- 50
- 25
- 0%

laptop
84%

smartphone
49%

tablet
27%

importance

laptop
93%

smartphone
47%

tablet
40%

LEARNING ENVIRONMENT AND ACADEMIC EXPERIENCES:

80% 82% of students prefer a **blended learning environment.**

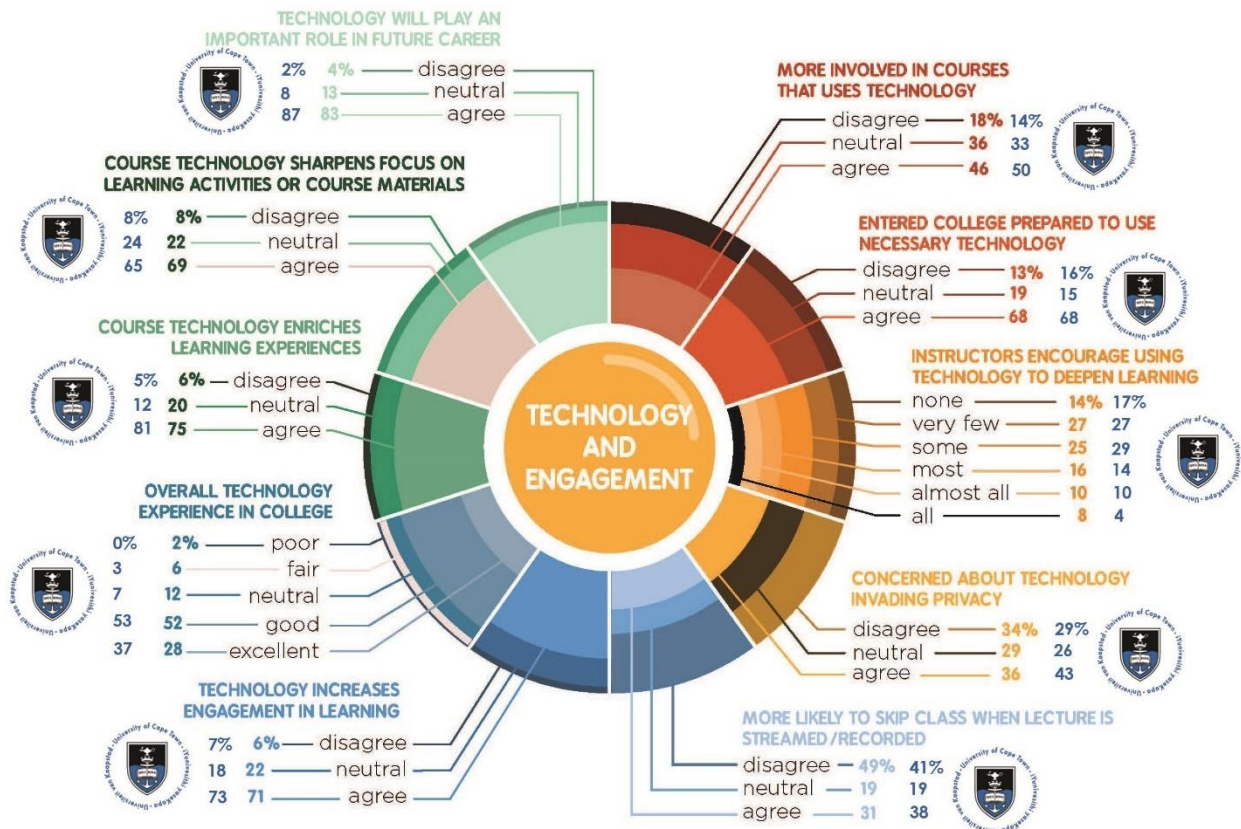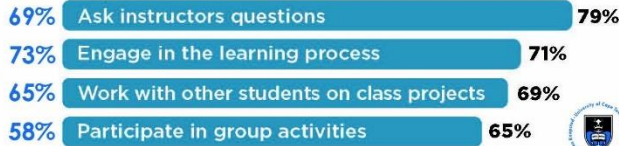**6 in 10** students say they want their instructors to use these **more:**

8 in 10 ✔ Lecture capture
✔ Early-alert systems
6 in 10 ✔ Free, web-based supplemental content
✔ Search tools to find references/information online for class work

TECHNOLOGY HAS CONSIDERABLE POTENTIAL TO ENGAGE STUDENTS IN CLASS:

TECHNOLOGY WILL PLAY AN IMPORTANT ROLE IN FUTURE CAREER

2%	4%	disagree
8	13	neutral
87	83	agree

COURSE TECHNOLOGY SHARPENS FOCUS ON LEARNING ACTIVITIES OR COURSE MATERIALS

8%	8%	disagree
24	22	neutral
65	69	agree

COURSE TECHNOLOGY ENRICHES LEARNING EXPERIENCES

5%	6%	disagree
12	20	neutral
81	75	agree

OVERALL TECHNOLOGY EXPERIENCE IN COLLEGE

0%	2%	poor
3	6	fair
7	12	neutral
53	52	good
37	28	excellent

TECHNOLOGY INCREASES ENGAGEMENT IN LEARNING

7%	6%	disagree
18	22	neutral
73	71	agree

TECHNOLOGY AND ENGAGEMENT

MORE INVOLVED IN COURSES THAT USES TECHNOLOGY

disagree	18%	14%
neutral	36	33
agree	46	50

ENTERED COLLEGE PREPARED TO USE NECESSARY TECHNOLOGY

disagree	13%	16%
neutral	19	15
agree	68	68

INSTRUCTORS ENCOURAGE USING TECHNOLOGY TO DEEPEN LEARNING

none	14%	17%
very few	27	27
some	25	29
most	16	14
almost all	10	10
all	8	4

CONCERNED ABOUT TECHNOLOGY INVADING PRIVACY

disagree	34%	29%
neutral	29	26
agree	36	43

MORE LIKELY TO SKIP CLASS WHEN LECTURE IS STREAMED/RECORDED

disagree	49%	41%
neutral	19	19
agree	31	38

Percentage of students who say that technology has helped them:

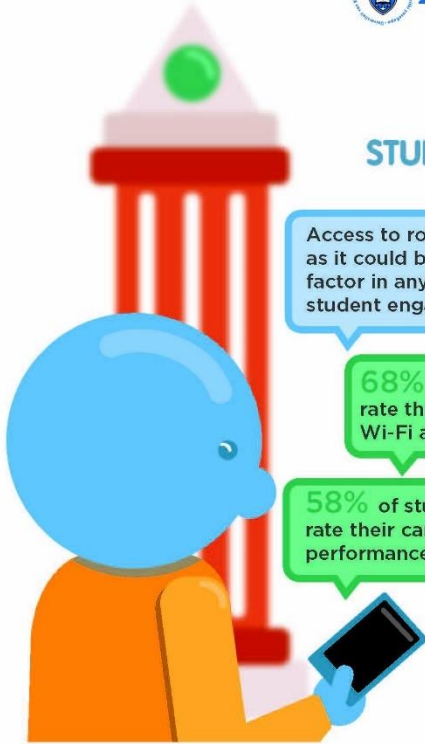|	US	UCT
Ask instructors questions	69%	79%
Engage in the learning process	73%	71%
Work with other students on class projects	65%	69%
Participate in group activities	58%	65%

Many students report that faculty use technology in meaningful and engaging ways.

Percentage of students who say most or all of their instructors do these things:

56% **57%** Encourage the use of online collaboration tools

61% 59% Use technology during class to make connections to the learning material

27% **34%** Encourage the use of student devices during class to deepen learning

49% 41% Encourage the use of technology for creative or critical-thinking tasks
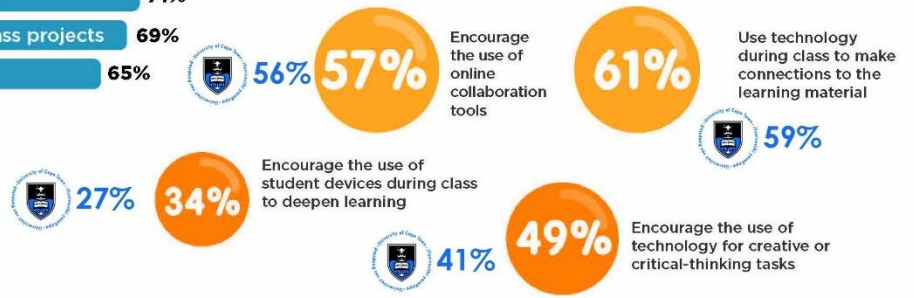
STUDENTS ARE ALWAYS CONNECTED:

Access to robust Wi-Fi is not as prevalent as it could be and might be a limiting factor in anytime, anyplace learning and student engagement activities.

68% of students rate the ease of login to campus Wi-Fi as good or excellent. 78%

58% of students rate their campus Wi-Fi network performance as good or excellent. 65%

2/3 of students typically connect two or more devices to the Internet at a time.
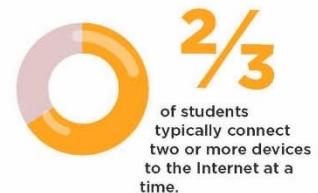
7/10

4 in 10 students say they get distracted in class by text messages, e-mail, social media, or web surfing.

email text	5 in 10
social media	6 in 10
web	4 in 10

EDUCAUSE CENTER FOR ANALYSIS AND RESEARCH   **EDUCAUSE**

The data in this infographic comes from the ECAR report ECAR Study of Undergraduate Students and Information Technology, 2016

UCT's responses have been added for comparative purposes.

To view the full report, go to: https://library.educause.edu/resources/2016/6/2016-students-and-technology-research-study

For more UCT stats, visit www.icts.uct.ac.za/publications_reports > Surveys

Key points: UCT results

From the results collected at UCT (both those reflected in this report and those not available here), several key points emerged:
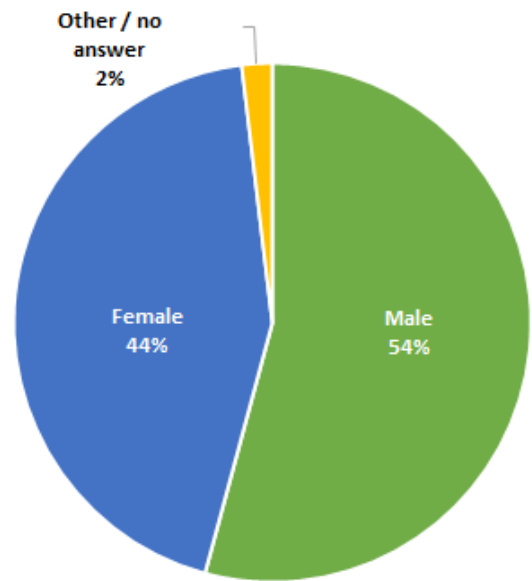
- UCT has a bigger Android community (63%) than iPhone (28%).
- In terms of academic use, UCT students use phones far more than tablets. 81% of respondents use their phone in at least one course, compared to 47% for tablets.
- 90% of UCT students reported a good or excellent overall tech experience in university, as compared to 80% saying the same in the overall standings.
- UCT students reported a better WiFi experience on campus, as compared to the full results of all universities surveyed. For easy login to WiFi, 78% of UCT students rated this as good or excellent (10% higher than the overall results). 65% of UCT students rated WiFi performance as good or excellent (7% more than the overall results).
- In the overall results, 31% of students are more likely to skip lectures that are recorded or streamed. This figure is higher among UCT students (38%).
- UCT students are more concerned about privacy (43%) as compared to the overall results (36%)
- During class, UCT students are distracted most by social media (56%), followed by text messages (55%), and email (52%).
- UCT lecturers use technology slightly less (46% across four categories) as compared to their counterparts (50% over these same categories in the overall results).
- Looking at the overall results (i.e. US and international institutions combined), 7% of the entire student population targeted completed the survey. In UCT's specific case, 5.2% of the targeted student population completed the survey.
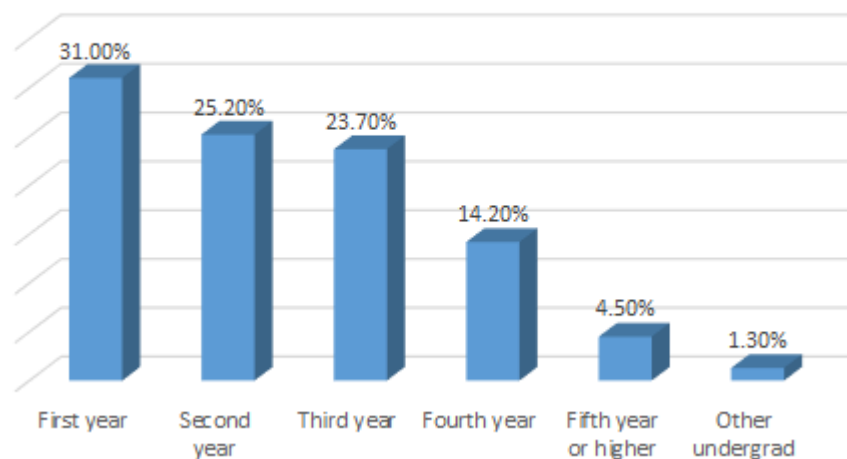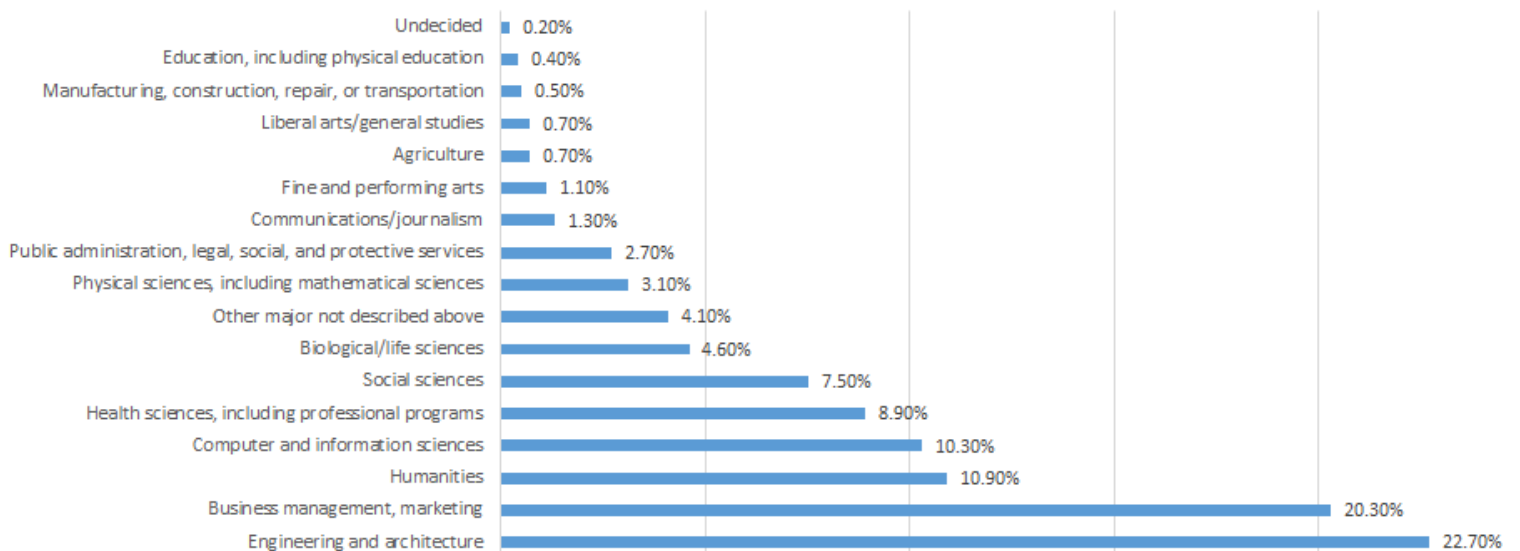
Who were UCT's 915 respondents?

Age

Older than 25
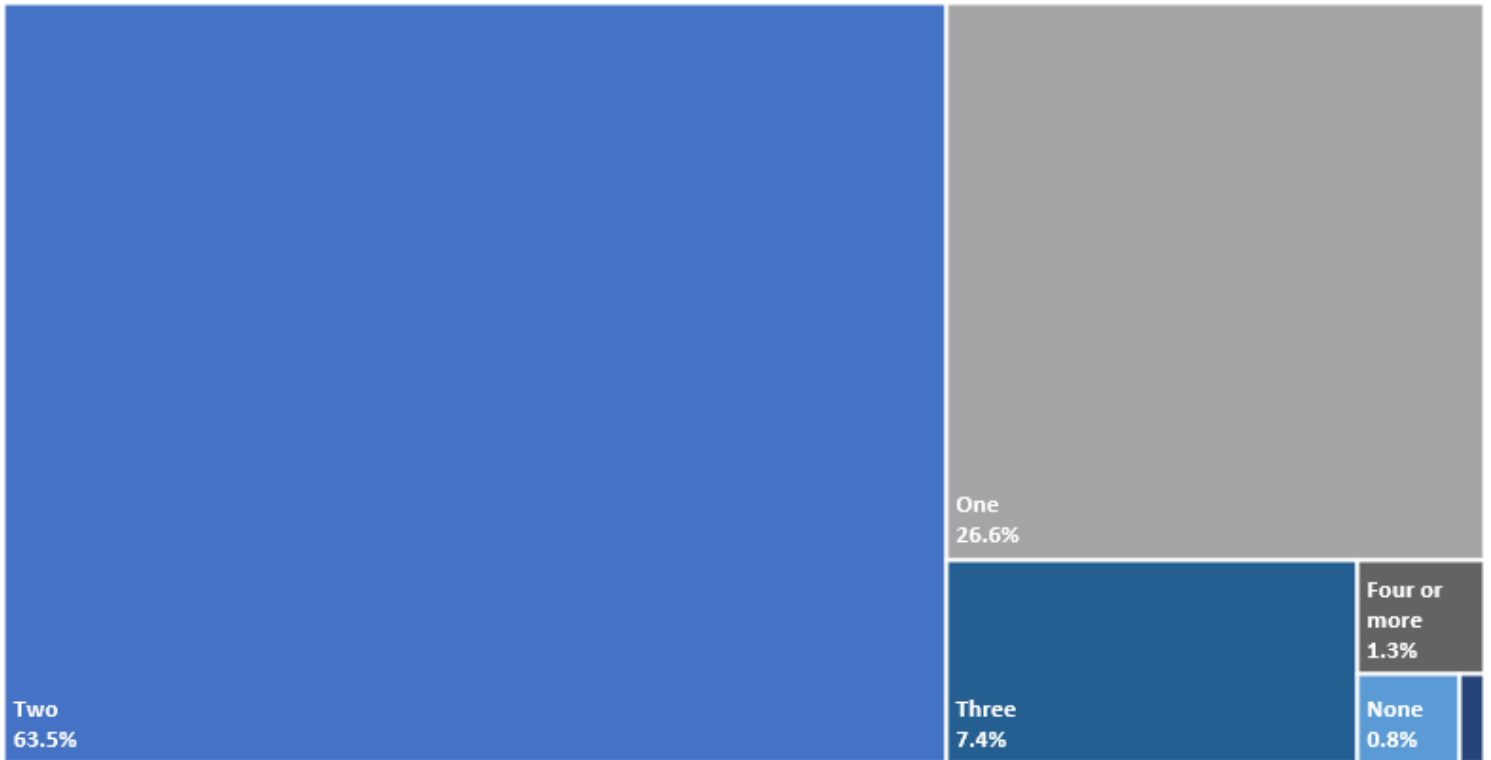6.10%

18 to 24 years old
93.90%

Gender

Other / no answer
2%

Female
44%

Male
54%

Year of study

- First year: 31.00%
- Second year: 25.20%
- Third year: 23.70%
- Fourth year: 14.20%
- Fifth year or higher: 4.50%
- Other undergrad: 1.30%

Major

Major	Percentage
Undecided	0.20%
Education, including physical education	0.40%
Manufacturing, construction, repair, or transportation	0.50%
Liberal arts/general studies	0.70%
Agriculture	0.70%
Fine and performing arts	1.10%
Communications/journalism	1.30%
Public administration, legal, social, and protective services	2.70%
Physical sciences, including mathematical sciences	3.10%
Other major not described above	4.10%
Biological/life sciences	4.60%
Social sciences	7.50%
Health sciences, including professional programs	8.90%
Computer and information sciences	10.30%
Humanities	10.90%
Business management, marketing	20.30%
Engineering and architecture	22.70%

Devices at UCT

Simultaneously connected

Two 63.5%	**One** 26.6%
	Three 7.4% / **Four or more** 1.3% / **None** 0.8%

WiFi access in various locations (good/excellent)
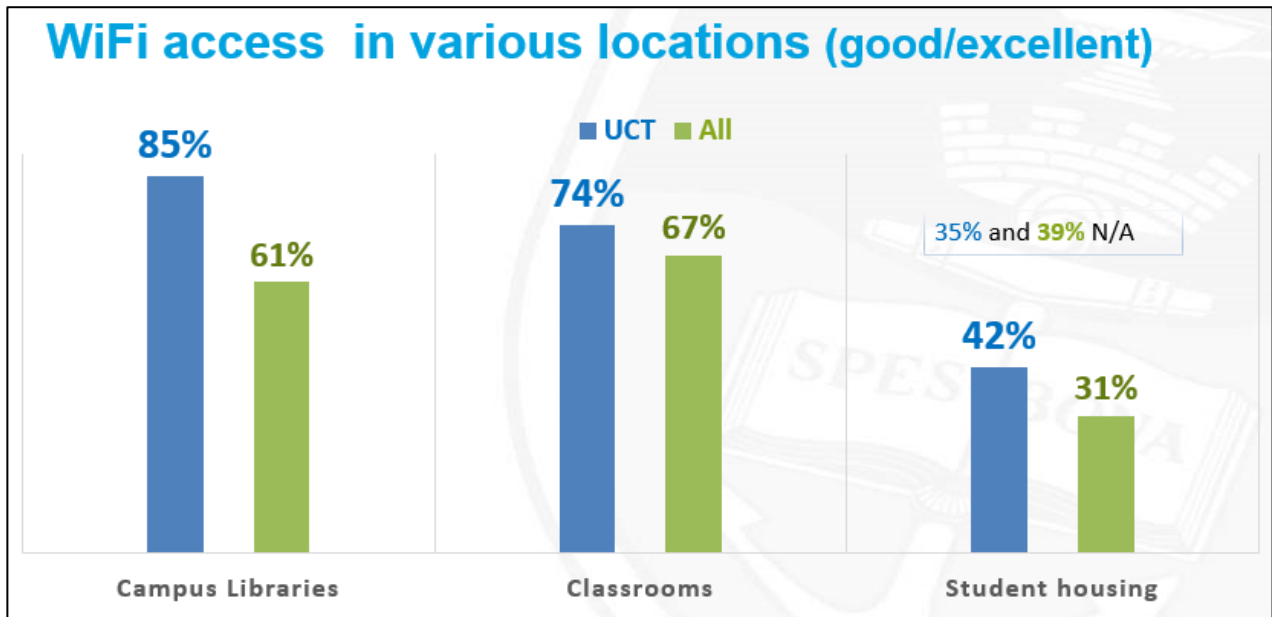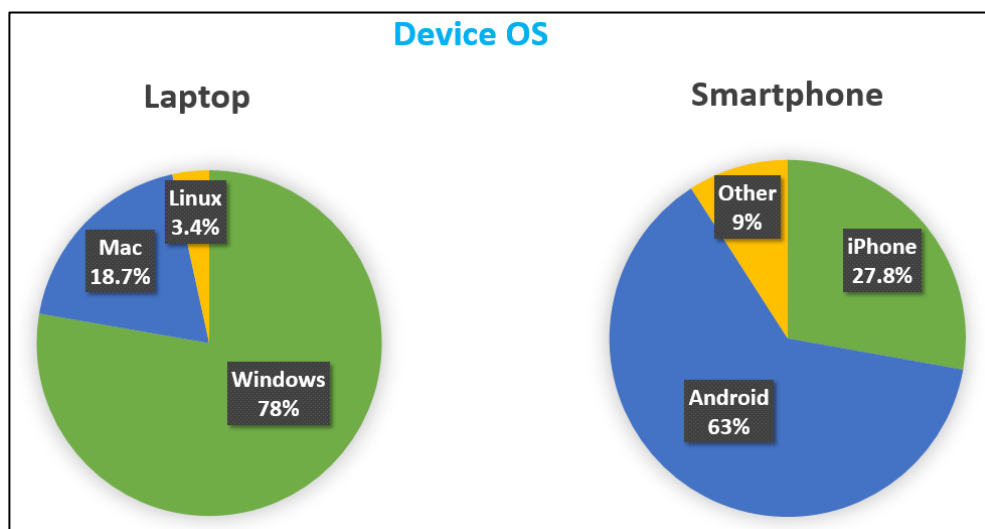
■ UCT ■ All

Campus Libraries: 85% (UCT), 61% (All)

Classrooms: 74% (UCT), 67% (All)

Student housing: 35% and 39% N/A — 42% (UCT), 31% (All)

Device OS

Laptop
- Linux 3.4%
- Mac 18.7%
- Windows 78%

Smartphone
- Other 9%
- iPhone 27.8%
- Android 63%

Technology in learning

Importance to academic success

	Laptop	Tablet	Smartphone
UCT	94%	40%	47%
ALL	93%	39%	45%

80% of students prefer a blended learning environment

Some online components	54.7%
Mostly but not completely online	25.0%
No online components	7.1%
No preference	6.8%
Completely online	6.5%
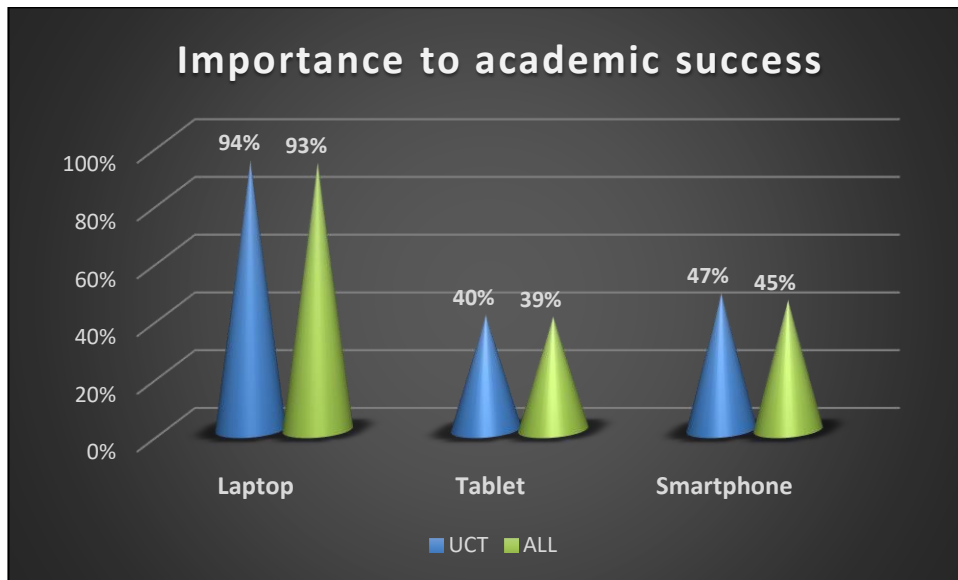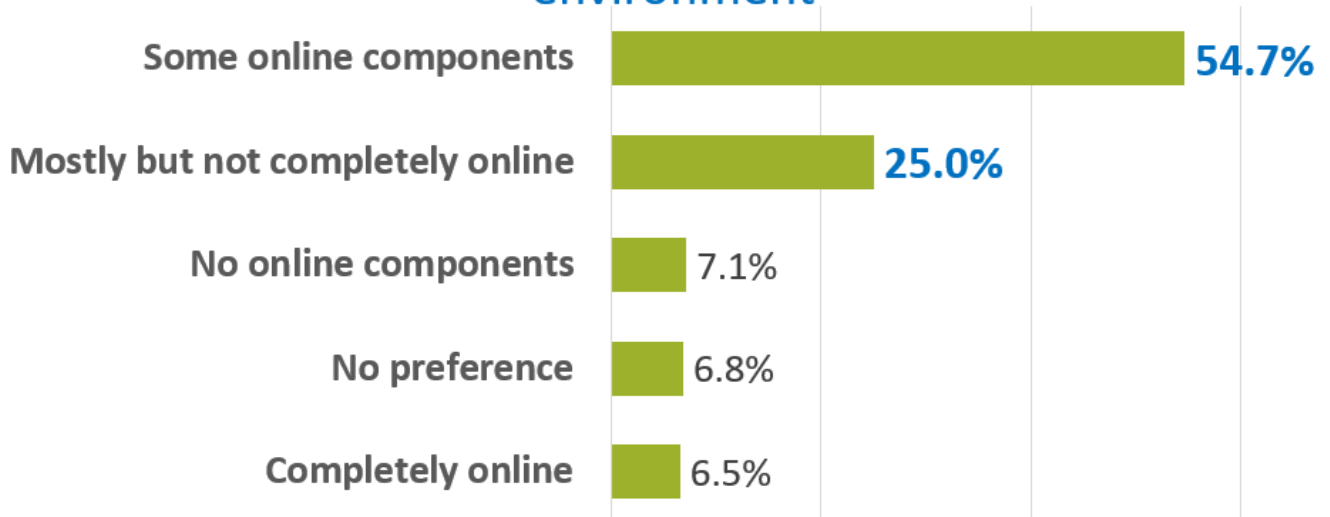
UCT students who become distracted during classes because they…

- Text 55%
- Read e-mail 52%
- Use social media 56%
- Surf the web 41%
- Play games on laptop or mobile 23%
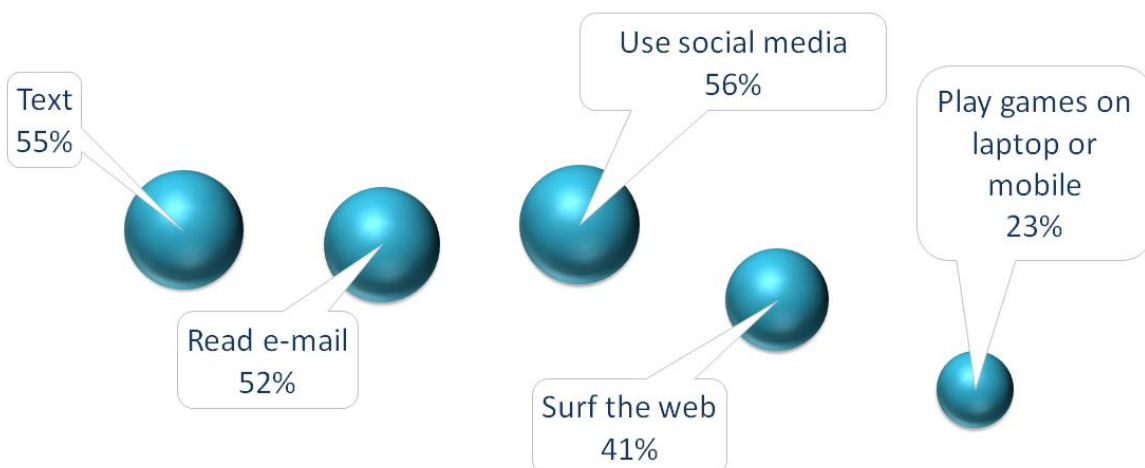
ONE thing _your instructors_ can do with technology to better facilitate / support your academic success.
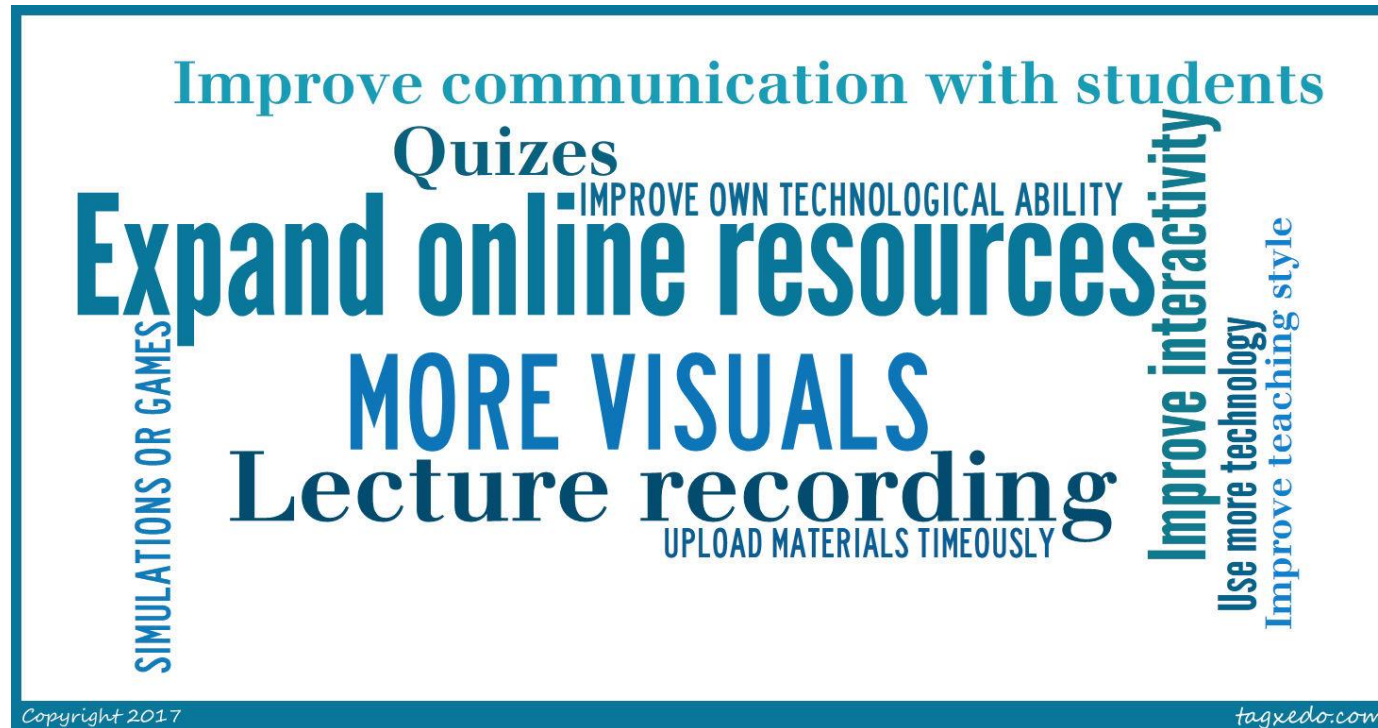
Full list of responses			
Category	# requests	Category	# requests
Expand online resources (course material / eBooks / resources)	105	Assignment submissions online	7
Use more videos or visuals	81	Improve access to technology	6
Lecture recording	69	N/A	6
Improve interactivity (e.g. in-class polls)	46	Live stream lectures / tuts	4
Quizzes / practice tests	41	Teach us how to use technology	4
Improve communication with students (including social media)	24	Use better technology	4
Use more technology	20	Nothing (happy with lecturers)	3
Use simulations or games	17	Improve IT facilities on campus	1
Learn to use technology (improve their own technological ability)	14	Make lectures more practical	1
Upload materials timeously (or even before lectures)	12	Monitor Plagiarism	1
Improve teaching style	11	Use less technology	1
Help me track my progress (including early warning system)	9		
Word cloud above represents items with 10 or more requests.			

Student comments

Before lectures:

- "Save things onto Vula BEFORE the lecture, giving us time to download some material so we're better prepared for the lecture."

During lectures:

- "Become more interactive and take time to show students what needs to be done."
- "Some instructors think that the 'use of technology' box can be ticked by using slideshows in their lectures. A lot of the time, these are nonsensical, not their own work and have no structure among other things. This leads students to become demotivated and confused about what the course actually covers. Many students will stop attending these lectures as they are of no help whatsoever."
- "More lecturers could make the content in lectures more interactive and get us more involved by taking advantage of the technology we have at our disposal. Only 1 of my lecturers takes live polls and has everything perfectly organised on the university's student software and is very good with notifications. If more of the lecturers were this organised, it would greatly improve the learning experience. Another one of my lecturers writes notes on a touchpad with a stylus which is projected onto the projector screens as he writes it, and then saved and uploaded to the student software so that anyone can access it. This is really nice because the notes are really neat and can be saved and accessed from anywhere, instead of relying on paper notes. All of my lecturers have this in the lecture venues, but not many of them use it. Most use PowerPoint presentations, which is also good, but some still use the old-fashioned blackboard to do examples or write notes, which is harder to see and impossible to save to a laptop. This also means you spend the entire lecture just copying the board and trying to keep up, rather than actually listening to what the lecturer has to say."
- "Make lecture materials available online live. For example, if a lecturer is solving a math problem have cameras or a handwriting to text system to make that solution available in real time"
- "Use interactive drawing tools to provide a digital copy of worked examples done in class so that attention can be payed to the process rather than copying the board."
- "Use Smart Screens instead of Black boards where it is difficult to see the far black board from the other side of the lecture theatre."
- "Integrate technology into their teaching, to make learning more interactive, instead of just putting words on a screen."
- "Have in-class voting system whereby we can access an online poll in class using an internet connect device and vote for the correct answer for a question put up on this site/application and we can answer anonymously and understand if we make a mistake and learn from that without embarrassment"
- "Make sure the technology used doesn't distract from the lecture. It should enhance the lecture not completely draw attention away from it."

After lectures:

- "Add voice overs to the slides they went through in class."
- "By creating and uploading lecture slides to Vula. If there are no online slides and have to rely solely on what you can take down in class, it can be very challenging. Trying to find the right mix of listening to what the lecture is saying and trying to write down what he is saying can lead to improper learning in my opinion."
- "Some lecturers do not put their lecture notes online and sometimes, they do go a bit too fast so by the time you've registered and understood what they were saying, they on another topic and you barely have notes. You need to play catch up. Having classes recorded via video or audio helps with refreshing your memory when it comes to exams in order to gain a better understanding."
- "Engage with students in an online forum or chat room to facilitate learning and answer questions."

- "Post some of the course contents on social media for debates and discussion so that students can be exposed to different ideas and way of thinking about the course. Social networks are more open and relaxed compared to class discussions."
- "Communicate directly through instant active messaging such as WhatsApp. University emails can get cluttered and information is missed"
- "Incorporated game-based learning to enhance the learning experience. As humans, we almost always learn through experience (i.e. simulations), and game-based learning allows for the mixture of both technology and simulation. For example, strategy-based games (i.e. Age of Empires) may be used as a learning tool to understand strategic behaviour."

Other requests:

- "Post electronic copies of text books required for that course as some of us really can't afford to buy all of our textbooks we can only buy one or two"
- "Have an online ranking system which calculates our marks and ranks our performances, so that we can know if we are failing or passing"
- "Always record lecture videos. The assumption that students want them only so that they can skip class is incorrect. Some people like to review lectures at home using these videos."

ONE thing _your institution_ can do with technology to better facilitate / support your academic success.

Full list of responses			
Category	**# requests**	**Category**	**# requests**
Better wireless	52	Use more technology	13
More academic materials online	49	Online registration and admin	9
Promote lecture recording	46	Teach lecturers to use technology	9
Improve online platforms (e.g. Vula)	43	Improve technology facilities	8
Improve access to technology (i.e. free / subsidised hardware and software; more facilities on campus)	39	N/A	7
Improve communication with students	29	Provide plug points (for charging devices)	7
Help me track my progress	22	Live stream lectures	5
Teach us how to use technology	20	Online courses	5
Provide e-books	17	Promote use of online resources	5
Nothing (happy with UCT)	16	Use better technology	5
Continues on next page			

Full list of responses (continued)			
Category	# requests	Category	# requests
Assignment submissions online	4	Eliminate handwritten exams	1
Higher internet quota	4	Encourage lecturers to teach more practically	1
Improve access to tutors	4	Encourage lecturers to upload materials timeously	1
Improve printing	4	Limit non-academic uses of technology	1
Promote visuals in teaching	4	Prioritise appointment of lecturers with quality teaching ability	1
Use technology consistently	4	Promote balance between technology and face to face	1
Encourage simulations in academics	3	Track lecture attendance	1
Improve classroom support	2	Use open source software	1
Word cloud above represents items with 10 or more requests.			

Student comments

Lecturers and technology

- "Have a consistent online experience with every course, instead of it being dependent on whatever the lecturer feels like. For example, putting up test dates on the online scheduling tool, and using the email system for announcements. Some lecturers will make full use of this, and some will not put a single thing up online."
- "Implement a consistent use of technology policy across the board, as it seems that every lecturer is free to use technology as when and however they please, even within the same faculty."
- "Train instructors so that less time is wasted due to their lack of familiarity with the technology which is available to them."
- The institution can invest more time in teaching instructors to utilise the technology, including things such as PowerPoint slides, better / more frequent communication e.g. checking Vula chat rooms more often, operating projectors within lecture venues and providing more online resources."

Lecturers' teaching style and interactivity

- "Be able to have to ask my lecturer questions freely and have them submit video or live video responses - or written forums - so that the lecturer is more engaged within the teaching experience. More committed to providing understanding."
- "Instead of having face to face consultations maybe have it online so that it's easier to have consultations than trying to work around a time that works for both parties."
- "The institution should encourage more lecturers and course conveners to interact with students online, as many students have difficulty talking to them in person. Allowing students to talk to them more easily would greatly improve studying."

Online platforms (Vula, PeopleSoft, etc.)

- "Consolidate various campus functions (registration, checking grades, downloading and uploading course content, etc.) into ONE website."
- "Create a study app where all courses, exams, tests can be easily scheduled. Sort of like the study application known as 'My study Life' but tailored for my institution."
- "UCT can use their UCT app and update the bus schedules on it regularly so that it reflects actual bus times and is useful."
- "Make the UCT app more inclusive of other facilities, like making a library/online resource search functionality."
- "It can create a social network based solely for students and lecturers to communicate with varying issues and to just communicate."
- "Improve the Vula website - it is currently very static instead of dynamic, so when even a small option is clicked, the whole page has to reload, making it slow and not very user friendly at times."
- "Get rid of Sakai. It's incredibly outdated and poorly performing. The technology available today is capable of doing way more."
- "Clarify some components of their online systems, and streamline the user interface (especially on PeopleSoft, which is very cluttered and confusing)."

Facilities on campus

- "Ban the use of non-academic sites in the computer labs. Often they are full and people are just watching YouTube videos or listening to music."

- "The WiFi on campus is pretty good, but in certain areas and venues it just doesn't work, or its really poor. Some lecture venues have power plugs, but many don't. This also applies to many areas of the library. In an age so reliant on technology, it's pretty important that we can always charge our devices."

Content online

- "Make as many past tests/exam papers/past projects etc. available as possible. Working through past resources is one of the best ways to prepare for a test or upcoming work. Possibly having a MCQ test (non-compulsory) uploaded to Vula at the end of each week so those wanting to test their understanding of the work they learnt that week are able to do so."
- "Collaborate with other institutions on online content, or come to an agreement with other institutions on allowing us access to their most interesting lectures."

Tracking academic progress

- "Early detection - UCT currently does not do this. I think it's a brilliant initiative to keep students motivated and to keep them on track with the course and with the degree in general. It helps track students' progress.   Maybe class stats should be given to students so that students can judge their overall effort in the course by comparing their marks to other students."
- "Have an indication of you academic standing. I.e. when you are not doing particularly well it will show you well ahead of time so that you are able to rectify the problem before it is too late."

Lecture recording

- "Always record lecture videos. The assumption that students want them only so that they can skip class is incorrect. Some people like to review lectures at home using these videos."
- "Record all lectures, as most times I end up sitting next to someone in a lecture who won't stop talking and then i tend to miss certain things that the lecturer may have said."
- "Lectures being recorded and put online for BA courses, uploading lecture slides (no point rushing through info and never uploading it because when students get demotivated and can't keep up, they stop attending)."

eBooks

- "Institution should get their hands on more electronic text books. Although some are made available already, the students with limited knowledge of computing may struggle to find all necessary text books through the internet."
- "Introduce the loaning of e-textbooks from the library, allowing students to loan books for a period of time from wherever they happen to be. There would I assume need to be limits on the number of people a book can be loaned to at once, but this would still make it much easier to access library content."
- "Allow e-textbook loans/purchases from library website (if this function does not exist already). If for copyright reasons only a portion of the e-book may be loaned, then loan the part that was recommended/referenced by the respective course."
- "Source more digital textbooks / e-books, as those are significantly easier to make use of (ability to search key points, saving of highlighted text for easy later use and more importantly the decrease in weight of books that need to be carried)"

Other comments

- "Financial aid should allocate laptop money. Not laptops, just the amount. So we can meet them halfway and purchase a good laptop instead of a basic one."
- "Provide better methods to teach students how to access the libraries resources. Instead of promoting self-teaching."

- "One of the latest technological paradigms is taking place in the field of Virtual Reality. Experts in this field forecast that within the next decade Mixed Reality consumer devices will be as ubiquitous as the smartphone is in 2016. Already this year the first few consumer head-mounted displays have been released by some of the top tech companies in the world (i.e Facebook, HTC, Playstation, etc).   The idea is that this technology is not only for creating immersive games, but will be used to re-imagine the way humans interact with computing devices. This technology will ultimately replace the 2D image we see on our smartphones with a fully immersive 3D experience, enabling a more intuitive consumption of information and an infinite amount of possible interactions that can be performed.   If there's one thing UCT (or any leading learning institution for that matter) can do now to prepare for this next paradigm shift, it is to embrace this technology and start putting together the infrastructure that will enable staff and students to develop, design and ultimately use Mixed Reality to their advantage - whether this be increased rate of learning, increased creativity, interactive research projects, etc."
- "My institution could promote access to technologies that make it easier to communicate things like mathematics electronically. User interfaces such as keyboards are difficult to work with for these purposes and since so much of my academic success depends on my performance and my level of engagement in mathematics, I am cut off to an extent from being able to communicate with other students and instructors electronically. In addition, in order to communicate mathematics, we would need a platform that is specifically designed for mathematics."

Positive comments

- "Well there's free WiFi and software is readily available. I'm not sure what more I could ask for."
- "As far as I am concerned, the institution's use of technology at the moment does not lack anything fundamental."

Report compiled by:

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http://www.icts.uct.ac.za/publications_reports > Surveys