

2023 Wi-Fi Survey Report May 2023

Prepared by

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INTRODUCTION

Wi-Fi, or wireless internet, has become the primary method to access internet networks. In order to keep up with the needs and demands of the College of the Redwoods (CR) campus community, the Information Technology (IT) Department began the Wi-Fi project in the summer of 2022 to secure and improve Wi-Fi infrastructure at all CR campuses. Specifically, the Wi-Fi project seeks to increase the area of coverage and improve bandwidth and security. Phase one of the project was completed during the 2022 Summer and Fall Semesters and, prior to moving onto phase two, the manager of the IT Department seeks to assess current user experiences with the Wi-Fi on campus through a district-wide survey. In collaboration with the Office of Institutional Research, a nine question, digital survey was designed and sent to 6,868 current College of the Redwoods employees and students during the 2023 Spring Semester.

METHODOLOGY

The 2023 Spring Semester Wi-Fi Survey utilized a mixed methods approach that included both quantitative and qualitative data and analyses. This approach provides robust dataset, thus allowing for a deeper exploration and investigation. A mixed methods approach also increases the validity of survey because it offers a way to corroborate accuracy among responses. The survey was administered using convenience sampling to 6,868 current College of the Redwoods (CR) employees and students enrolled during the 2022 Fall and/or 2023 Spring Semesters. The survey was created in SurveyMonkey and sent through Mailchimp to the population's official CR email addresses. The survey was sent on April 21, 2023 at 3:42pm, and remained open for one full week, closing on April 28, 2023 at 11:45pm. The results of the survey were analyzed through descriptive statistics and qualitative responses were coded by identifying concepts and themes. All qualitative responses, including their assigned codes can be found in Appendix C.

RESULTS

OVERVIEW

Of the 6,868 current College of the Redwoods (CR) employees and students who were sent the survey via email, a total of 691 individuals opened the email and 218 individuals completed the survey. However, 25 participants were removed from the analyses leaving a total of 193 participants. Of the 25, thirteen participants were disqualified from completing the survey because they indicated that they do not use the Wi-Fi at their primary campus. The remaining 12 participants were removed from analysis because they did not complete the full survey, responding only to the first three questions: primary role, primary campus and whether they use the Wi-Fi on campus. See Table 1 below for percentages of participants by primary role and location.

 Table 1: Percentage of Participants by Primary Campus Location and Primary Role on Campus

Del Norte Education Center	Administrator/Manager	0.5%
	Faculty Member	1.0%
	Staff Member	1.6%
	Student (living off campus)	1.0%
Eureka Downtown	Faculty Member	0.5%
	Staff Member	0.5%
	Student (living off campus)	0.5%
Eureka Main Campus	Administrator/Manager	4.2%
-	Faculty Member	16.7%
	Staff Member	22.9%
	Student (living off campus)	30.2%
	Student (living on campus - dorm resident)	6.8%
	Student at Academy of the Redwoods	10.9%
Klamath Trinity Campus	Faculty Member	0.5%
	Student (living off campus)	0.5%
Online or Remote	Student (living off campus)	1.6%

Note: n=193

In addition to asking about a participant's primary role and location, the third question on the survey inquired about the devices participants use to access the Wi-Fi at their primary campus. There were 7 devices listed and participants were allowed to select as many devices as applicable. There is a total of 373 device selections, most of which are Apple iPhone and a computer (see Table 2). Additionally, an "other" option was included so participants could enter

a device they use if it was not already included in the list. A total of 9 participants added a device in this field and their responses are as follows. Of the 9 responses, 4 included a distinction of laptop or Macbook, 1 noted a Chromebook, 2 noted a Kindle, 1 noted a Nintendo 3DS, and 1 noted "Vendor handheld ordering machines".

Table 2: Devices Used to Access Wi-Fi on Campus

How do you access the	Apple iPhone	36.5%
Wi-Fi (wireless internet)	Computer	35.7%
at your primary campus? Select all that apply.	Android Phone	14.5%
	iPad	7.0%
	Gaming System	2.9%
	Android Tablet	1.9%
	Smart TV	1.6%

Note: n=193; Device Selection Totals=373

There are a total of 5 additional questions on the Wi-Fi Survey that assessed user experiences. The first three questions assessed perceptions of difficulty or ease and levels of satisfaction on a 7-point bipolar Likert Scale. The scales for each question range from 1 to 7, very difficult to very easy and very dissatisfied to very satisfied with a midpoint of neither for both scales. The first of these questions asked participants for their perceived level of difficulty or ease when accessing a reliable Wi-Fi signal on campus. The following two questions asked participants for their perceived level of satisfaction with the area of coverage and quality of service. The weighted average was calculated for all three questions to obtain a more meaningful statistic to measure overall perceptions. Overall, participants find that accessing a reliable Wi-Fi connection is somewhat difficult and they are somewhat dissatisfied with the area coverage and quality of service (see Figure 1).

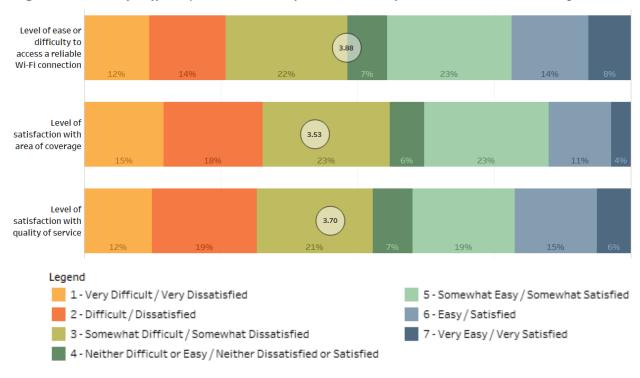


Figure 1: Levels of Difficulty/Ease and Satisfaction/Dissatisfaction with Wi-Fi on Campus

Note: n=193

The final two questions are open-ended. The first open-ended question asked participants to identify the challenges they experience when trying to access or maintain a Wi-Fi connection. Responses for this question were coded by identifying concepts (see Appendix B). There is no limit to the amount of codes that were permitted per response. Although a single response may receive multiple codes, 66% of responses received one code and 34% of responses received 2-3 codes. Two themes emerged from the concepts of "disconnection" and "challenging to connect". Several participants explicitly added that they are disconnected from the Wi-Fi when their device enters sleep mode. Several other participants also noted that they have to login multiple times and that the login page itself freezes, which makes it challenging to connect.

A total of 160 participants entered a response for the first question however, three of the responses were unable to be coded due to lack of detail within the response noting simply that the Wi-Fi "does not work". An additional four responses were removed because they indicated that there were no issues or challenges. Therefore, of the total of 160 participants who entered a response, only 153 participant responses were used for analysis. The top three challenges that participants expressed was consistent disconnection from the Wi-Fi, it's challenging to connect

to the Wi-Fi, and there is limited access in terms of area of coverage and mobility (see Table 3). For a full list of all responses, see Appendix C.

 Table 3: Challenges Experienced When Accessing/Maintaining a Wi-Fi Connection

What are the challenges you	Disconnection	36.3%
experience when trying to	Challenging to connect	23.6%
access or maintain the Wi-Fi	Limited access	17.9%
(wireless internet) at your	Weak signal	8.5%
primary campus?	Slow speed	8.5%
	Insufficient bandwidth	2.8%
	Pasword is challenging	0.9%

Note: n=153. Concept Totals=210

The second open-ended question asked participants to list the areas on campus they would like to access the Wi-Fi and cannot. Responses for this question were standardized and variation was removed such that a single building or area has the same title regardless of spelling. As with the first open-ended question, participants were not limited to a maximum number of locations for their response. The percentages of responses who received one or more location codes are as follows: 55% of responses received one code, 32% of responses received 2-3 codes, and 3% received 4-5 codes. A total of 122 participants included a response to this question. However, 10 of those responses were unable to be coded due to either insufficient detail or the response provided was not relevant to the question. For example, the responses that lacked detail noted that they would like to access the Wi-Fi "everywhere", or "all the buildings" or "in the classroom". As for the responses that were irrelevant to the question, they answered the question by reiterating their response from the first open-ended question or discussing their grievances with the cellular service on campus. Therefore, of the 122 responses, only 112 were used for analysis. The top three locations participants indicated that they would like to access the Wi-Fi and cannot at the Eureka Main Campus is the Science Building, the café/cafeteria/quad area and the parking lots. Klamath-Trinity Campus also noted parking lots, and the Del Norte Education Center noted the library and main building (see Table 4).

Table 4: Locations Participants Would Like to Access Wi-Fi and Cannot

Please list the areas at your primary campus that you would like to access the Wi-Fi (wireless internet) and cannot. PE Building 7.7% Humanities Building 6.6% Ponds 6.0% EKA Library 5.5% Student Services Building 5.5% Creative Arts 8.29 Between Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% KT Parking Lots 0.5% DN Library 1.1% DN Main Building 1.1%			
would like to access the Wi-Fi (wireless internet) and AT Building 7.7% cannot. PE Building 7.7% Humanities Building 6.6% Ponds 6.0% Dorms 6.0% EKA Library 5.5% Fieldhouse 5.5% Student Services Building 5.5% Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%	Please list the areas at your	Science Building	10.4%
(wireless internet) and cannot. PE Building 7.7% Humanities Building 6.6% Ponds 6.0% Dorms 6.0% EKA Library 5.5% Fieldhouse 5.5% Student Services Building 5.5% Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%	primary campus that you	Café/ Cafeteria/ Quad	10.4%
PE Building 7.7% Humanities Building 6.6% Ponds 6.0% Dorms 6.0% EKA Library 5.5% Fieldhouse 5.5% Student Services Building 5.5% Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%	would like to access the Wi-Fi	EKA Parking Lots	8.2%
Humanities Building 6.6% Ponds 6.0% Dorms 6.0% EKA Library 5.5% Fieldhouse 5.5% Student Services Building 5.5% Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%	(wireless internet) and	AT Building	7.7%
Ponds Dorms 6.0% EKA Library 5.5% Fieldhouse 5.5% Student Services Building 5.5% Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry Bus Stop KT Parking Lots DN Library 1.1%	cannot.	PE Building	7.7%
Dorms 6.0% EKA Library 5.5% Fieldhouse 5.5% Student Services Building 5.5% Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		Humanities Building	6.6%
EKA Library 5.5% Fieldhouse 5.5% Student Services Building 5.5% Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		Ponds	6.0%
Fieldhouse 5.5% Student Services Building 5.5% Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		Dorms	6.0%
Student Services Building 5.5% Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		EKA Library	5.5%
Creative Arts 4.9% Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		Fieldhouse	5.5%
Between Buildings 3.3% AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		Student Services Building	5.5%
AJ Building 1.6% Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		Creative Arts	4.9%
Forum 1.1% Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		Between Buildings	3.3%
Resource Center/ Food Pantry 0.5% Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		AJ Building	1.6%
Bus Stop 0.5% KT Parking Lots 0.5% DN Library 1.1%		Forum	1.1%
KT Parking Lots 0.5% DN Library 1.1%		Resource Center/ Food Pantry	0.5%
DN Library 1.1%		Bus Stop	0.5%
DN Library 1.1%		KT Parking Lots	0.5%
DN Main Building 1.1%		DN Library	1.1%
		DN Main Building	1.1%

Note: n=112. Location Totals =182

PRIMARY CAMPUS LOCATION

Comparing results of self-reported levels of difficulty or ease and satisfaction across primary campus location, there are some notable differences, as shown in Figures 2-4. Self-reported levels of difficulty or ease when accessing a reliable Wi-Fi connection on campus and self-reported levels of satisfaction with the area of coverage received the highest rankings compared to levels of satisfaction with the quality of service. Weighted means on these measures range from somewhat difficult or somewhat dissatisfied to somewhat easy or somewhat dissatisfied. The Eureka Main Campus produced the lowest score on both measures. Although the Klamath-Trinity Campus reported that it is somewhat easy to access a reliable Wi-Fi connection on campus, they also reported that they are somewhat dissatisfied with the area of coverage. The measure that received the lowest weighted means overall is levels of satisfaction with quality of service, ranging from somewhat dissatisfied to neither dissatisfied nor satisfied.

The Eureka Main Campus, Klamath-Trinity Campus and Online or Remote reported that they are somewhat dissatisfied with the quality of service. The weighted means of these measures by campus location reveals that increasing the area of coverage and improving the quality of service should be a primary focus of phase 2 of the Wi-Fi project, as it received the lowest scores over all measures.

Level of ease or difficulty to access a reliable Wi-Fi connection Del Norte Education 5.250 Center Eureka 4.333 Downtown Eureka 3.773 Main Campus Klamath 5.000 Trinity Campus Online or 5.000 Remote 1 - Very Difficult / Very Dissatisfied 5 - Somewhat Easy / Somewhat Satisfied 2 - Difficult / Dissatisfied 6 - Easy / Satisfied 3 - Somewhat Difficult / Somewhat Dissatisfied 7 - Very Easy / Very Satisfied 4 - Neither Difficult or Easy / Neither Dissatisfied or Satisfied

Figure 2: Levels of Difficulty/Ease accessing Wi-Fi by Primary Campus Location

Note: n=193

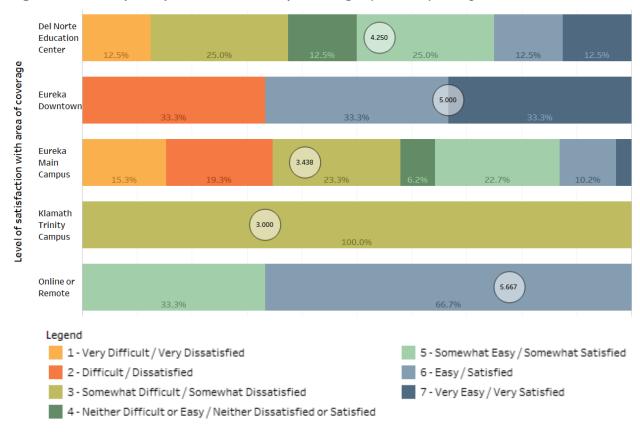


Figure 3: Levels of Satisfaction with Area of Coverage by Primary Campus Location

Note: n=193

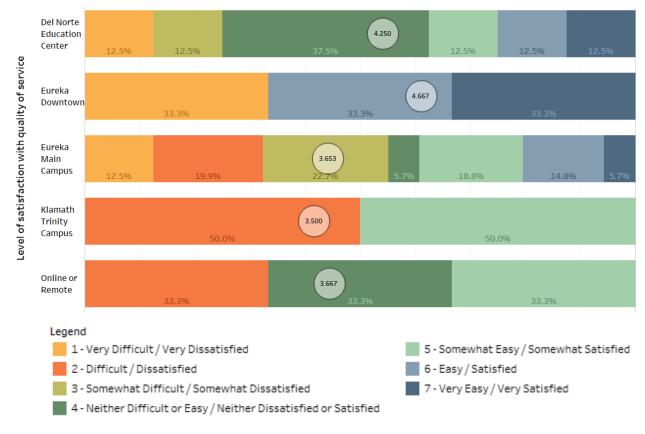


Figure 4: Levels of Satisfaction with Quality of Service by Primary Campus Location

Note: n=193

PRIMARY ROLE ON CAMPUS

Looking at a all three measures by primary role on campus, the weighted means are much less favorable overall, as most roles report levels of somewhat difficult and somewhat dissatisfied (see Figures 5-7). The highest weighted means on all three measures are produced by staff members, indicating that it is neither difficult nor easy to access a reliable Wi-Fi connection and they are neither dissatisfied nor satisfied with the area of coverage and quality of service. Students living on campus (dorm residents) reported the lowest levels of satisfaction with the area of coverage and quality of service, indicating that they are dissatisfied. Students living on campus reported that accessing a reliable Wi-Fi connection is somewhat difficult. All remaining roles (administrators/managers, faculty members, students living off campus and Academy of the Redwoods students) reported that it is somewhat difficult to access a reliable Wi-Fi connection

and they are somewhat dissatisfied with the area of coverage and quality of service. However, it is important to note that, among these roles, faculty members reported the lowest scores.

The weighted means of these measures by primary role on campus indicate that the dorms or on-campus student housing should be an area that receives particular attention during phase 2 of the Wi-Fi project, not only because students who live on campus produced the lowest scores but also because they are on campus more than any other group. Additionally, the low scores reported by faculty members appear to be driven by their ability or inability to access the Wi-Fi within their classrooms, as evidenced by their open-ended responses. Therefore, classrooms should also be prioritized in the following phases of the Wi-Fi project.

Administrator Level of ease or 3.667 / Manager difficulty to access a reliable Wi-Fi connection Faculty 3.528 Member 4.265 Staff Member Student (living off campus) Student (living 3.077 on campus dorm resident) Student at 3.952 Academy of Legend 1 - Very Difficult / Very Dissatisfied 5 - Somewhat Easy / Somewhat Satisfied 2 - Difficult / Dissatisfied 6 - Easy / Satisfied 3 - Somewhat Difficult / Somewhat Dissatisfied 7 - Very Easy / Very Satisfied 4 - Neither Difficult or Easy / Neither Dissatisfied or Satisfied

Figure 5: Levels of Difficulty/Ease accessing Wi-Fi by Primary Role on Campus

Note: n=193

Administrator Level of 3.222 / Manager satisfaction with area of coverage Faculty 3.000 Member Staff Member Student (living 3.651 off campus) Student (living 2.692 on campus -dorm resident) Student at Academy of 3.857 the Redwoods Legend 1 - Very Difficult / Very Dissatisfied 5 - Somewhat Easy / Somewhat Satisfied 2 - Difficult / Dissatisfied 6 - Easy / Satisfied 3 - Somewhat Difficult / Somewhat Dissatisfied 7 - Very Easy / Very Satisfied 4 - Neither Difficult or Easy / Neither Dissatisfied or Satisfied

Figure 6: Levels of Satisfaction with Area of Coverage by Primary Role on Campus

Note: n=193

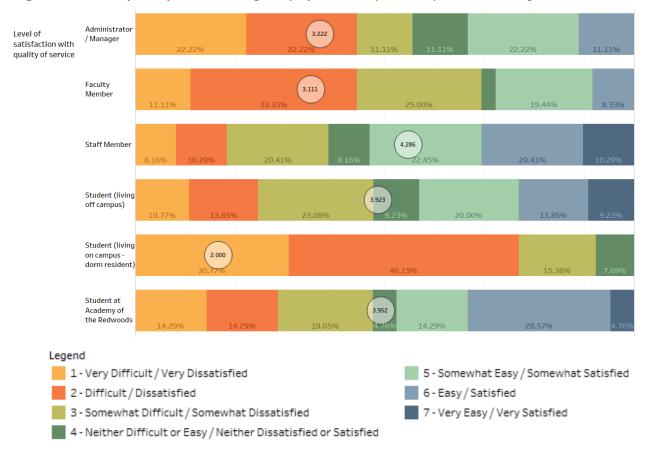


Figure 7: Levels of Satisfaction with Quality of Service by Primary Role on Campus

Note: n=193

DEVICES USED TO ACCESS Wi-Fi

Interestingly, and somewhat expectedly, the greatest variation of weighted means exists when comparing across devices used, as shown in Figures 8-10. The Android phone and Android tablet received the highest scores compared to all devices, ranging from neither difficult nor easy and neither dissatisfied nor satisfied to somewhat easy and somewhat dissatisfied.

Comparatively, the Apple iPhone and Apple iPad had a weighted mean of somewhat difficult and somewhat dissatisfied across all metrics. The most used device, the computer, also indicated that it is somewhat difficult to access a reliable Wi-Fi connection and the level of satisfaction with area of coverage and quality of service is somewhat dissatisfied. Participants who indicated that they accessed the Wi-Fi with a gaming device find it somewhat difficult to access a reliable connection and are somewhat dissatisfied with the area of coverage. Their lowest weighted mean

indicates that they are dissatisfied with the quality of service. The lowest scores were given by participants who indicated that they access the Wi-Fi with a smart TV. The weighted means indicated that they find it difficult to access a reliable Wi-Fi connection and are very dissatisfied with the area of coverage and quality of service. Due to the high bandwidth requirements of a smart TV, it is unsurprising that it received the lowest scores for all measures.

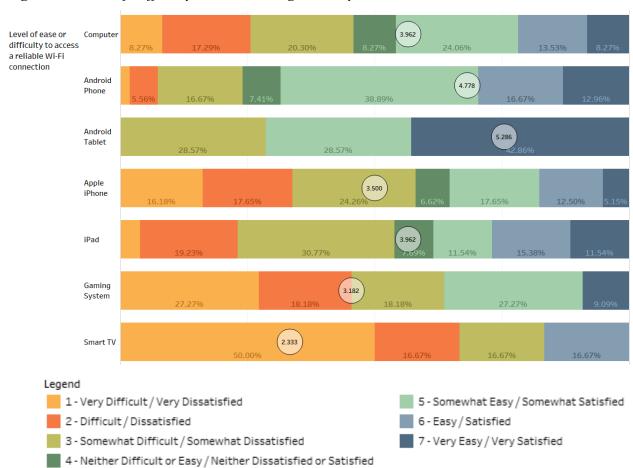


Figure 8: Levels of Difficulty/Ease accessing Wi-Fi by Device

Note: n=193. Device Selection Totals=373

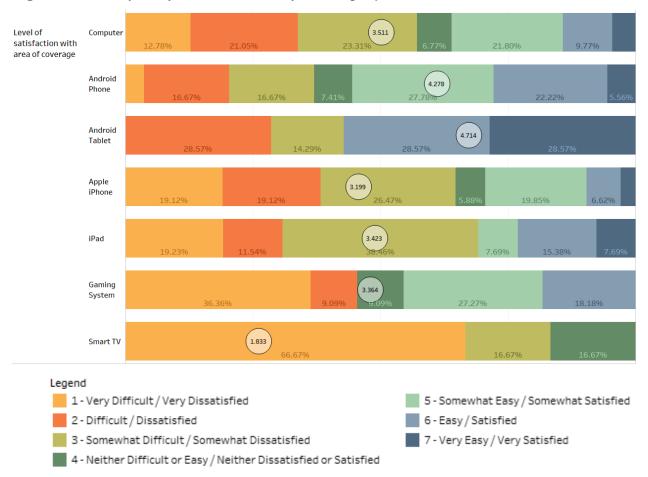


Figure 9: Levels of Satisfaction with Area of Coverage by Device

Note: n=193. Device Selection Totals=373

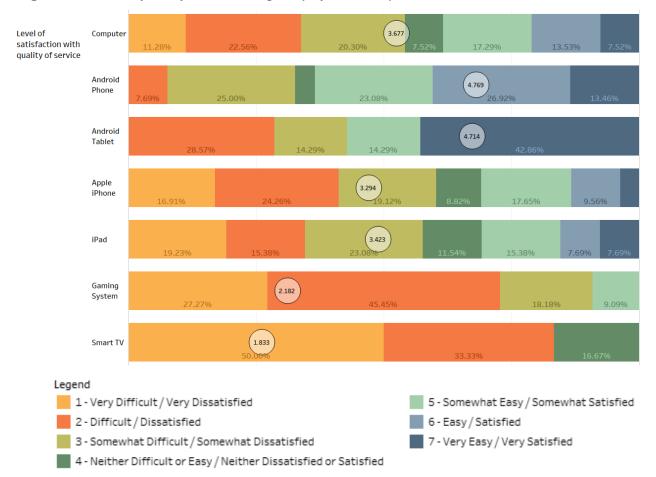


Figure 10: Levels of Satisfaction with Quality of Service by Device

Note: n=193. Device Selection Totals=373

DISCUSSION

The online Wi-Fi survey instrument assessed current Wi-Fi user experiences through quantitative and qualitative methods. In general, results of the survey reveal that participants find it neither difficult nor easy to access a reliable Wi-Fi connection at their primary campus. Moreover, participants are neither dissatisfied nor satisfied with the area of coverage and quality of service. These sentiments are further supported by the challenges users reported experiencing when accessing or maintaining a Wi-Fi connection (disconnection, challenging to connect, limited access, weak signal and slow speed).

Additional analyses of these metrics revealed important differences of perceptions by participant's primary campus location, primary role on campus and device(s) used to access the

Wi-Fi. Somewhat expectedly, the Eureka Main Campus and Klamath-Trinity Campus reported some of the lowest scores across all metrics. Comparing user experience by primary role reveals that students living on campus (dorm residents) report the lowest levels across all metrics ranging from very difficult/dissatisfied to somewhat difficult/dissatisfied. Additionally, faculty members have the second lowest level of satisfaction indicating that they are somewhat dissatisfied with the area of coverage and quality of service. Final analyses revealed that there are also noticeable differences of perceptions after comparing by device used to access the Wi-Fi. Unsurprisingly, lowest scores among all measures were given by participants who indicated that they access the Wi-Fi with a smart TV, which is likely due to the high bandwidth requirements of a smart TV. Moreover, this is likely contributing to the low perceptions of students living on campus given that they are 100% of participants who selected a smart TV. An interesting and somewhat unexpected finding when comparing results by device is that participants who use an Android device reported the highest scores among any other device.

Findings from the 2023 Spring Semester Wi-Fi Survey illustrate that there are specific areas and subpopulations that have the greatest potential to increase their level of perception. The Information Technology (IT) Department could accomplish this during the next phase of their Wi-Fi Project by focusing their efforts on increasing the area of coverage to the parking lots at the Eureka Main Campus and Klamath-Trinity Campus. Additionally, increasing the quality of service inside of the dorms and classrooms at the Eureka Main Campus would likely improve perceptions of faculty members and students living on campus. Quality of service perceptions could also be improved by resolving the reasons for the frequent disconnection experienced by users. Finally, in order to measure changes of perceptions over time and the different phases of the Wi-Fi Project, it is recommended to resend this survey to the same individuals identified for the 2023 Spring Semester Wi-Fi Survey.

APPENDIX A: 2023 Spring Wi-Fi (Wireless Internet) Survey

2022-2023

IT would like to know about your experiences accessing the Wi-Fi while you're on campus during this 2023 Spring Semester. Responses will be used to understand Wi-Fi challenges on campus and continued improvement of Wi-Fi accessibility and reliability.

This survey takes less than 5 minutes, and all responses will remain anonymous.

- 1. Please select your <u>primary or main</u> role at College of the Redwoods.
 - a. Student (living off campus)
 - b. Student (living on campus dorm resident)
 - c. Student at Academy of the Redwoods
 - d. Faculty Member
 - e. Administrator/Manager
 - f. Other (please specify)
- 2. Select your <u>primary or main</u> campus location.
 - a. Eureka Main Campus
 - b. Eureka Downtown
 - c. Del Norte Education Center
 - d. Klamath Trinity Campus
 - e. Online or Remote
 - f. Other (please specify)
- 3. Do you use the Wi-Fi (wireless internet) at your primary campus?
 - a. Yes
 - b. No
- 4. How do you access the Wi-Fi (wireless internet) at your primary campus? *Select all that apply*.
 - a. Android Phone
 - b. Apple iPhone
 - c. Android Tablet
 - d. iPad
 - e. Computer

- f. Gaming System
- g. Smart TV
- h. Other (please specify)
- 5. During a typical school week, how easy or difficult is it for you to get access to a reliable Wi-Fi (wireless internet) connection at your primary campus?
 - a. Very easy
 - b. Easy
 - c. Somewhat easy
 - d. Neither easy nor difficult
 - e. Somewhat difficult
 - f. Difficult
 - g. Very difficult
- 6. Overall, how satisfied are you with the <u>area of coverage</u> of the Wi-Fi (wireless internet) service at your primary campus?
 - a. Very satisfied
 - b. Satisfied
 - c. Somewhat satisfied
 - d. Neither satisfied nor dissatisfied
 - e. Somewhat dissatisfied
 - f. Dissatisfied
 - g. Very dissatisfied
- 7. Overall, how satisfied are you with the <u>quality</u> of the Wi-Fi (wireless internet) service at your primary campus?
 - a. Very satisfied
 - b. Satisfied
 - c. Somewhat satisfied
 - d. Neither satisfied nor dissatisfied
 - e. Somewhat dissatisfied
 - f. Dissatisfied
 - g. Very dissatisfied

- 8. What are the challenges you experience when trying to access or maintain the Wi-Fi (wireless internet) at your primary campus?
- 9. Please list the areas at your primary campus that you would like to access the Wi-Fi (wireless internet) and cannot.

APPENDIX B: Experienced Challenges – Concepts and Definitions

"What are the challenges you experience when trying to access or maintain the Wi-Fi (wireless internet) at your primary campus?"

Concepts and Definitions:

- Disconnection Wi-Fi signal is lost/disconnected after successful connection.
- Challenging to connect Wi-Fi appears to be available, but the device does not connect, or it takes multiple attempts to connect.
- Weak signal Strength of Wi-Fi signal is poor.
- Limited access There are "dead zones" on campus where a user cannot access Wi-Fi.
- Slow Speed A delay or inability to load applications, websites, programs through Wi-Fi.
- Password is challenging The password is complicated for users.
- Insufficient bandwidth There is not enough capacity for data.

APPENDIX C: Experienced Challenges – Responses

"What are the challenges you experience when trying to access or maintain the Wi-Fi (wireless internet) at your primary campus?"

Responses that received no codes:

Lack of Detail:

- Connects but does not work?
- Wi-Fi does not always work on my iPhone at my campus.
- The wifi doesn't work on my MacBook. and it rarely ever works on my phone.

No Issue:

- I have no immediate challenges. Although in some areas such as the Creative Arts Building it is a little worse.
- It has been working on our laptops both in the conference room and classrooms when we got out to do interviews. We have not had a problem this semester.
- None
- None. I can roam from building to building with no problems at all.

Responses that received one code:

Disconnection:

- Always dropping connection and having to turn off my Wi-Fi and reconnect especially in the library
- Always kicking off. Cell service is horrible! I'm always worried someone will be unable to reach me in the case of emergency.
- Being connected and getting disconnected frequently
- constantly disconnecting
- Doesn't stay connected.
- Dropped phone calls, sometimes emergency calls from family and/or students.

- Every time I put my phone to sleep I have to log into the Wi-Fi again. I am required to go to settings, disconnect from the Wi-Fi, then sign in again and wait every time I close my phone. It's rather inconvenient, but that's it.
- Every time I shut my phone to do something else, off the wi-fi disconnects. This is extremely annoying.
- Getting kicked off the wifi frequently. Having to continually sign back into wifi.
- Having to reconnect when moving from building to building, the connection seems to disconnect. It is just inconvenient to have to re-connect to ensure emails and/or text communications go through.
- Having to re-sign in each time I come back on compus.
- I am kicked off of wifi every time I pause from using my phone or laptop so I have to log in constantly
- I can access the wi-fi, but get bumped off of it all the time.
- I can usually access the Wi-Fi easily, but it disconnects very frequently. I have had issues on both the laptop and iPhone.
- I find myself having to login into the WiFi networks every time my computer goes to sleep.
- In certain places on campus I get disconnected from the wifi and something's it cuts out on me
- internet cuts out too often and in too many spots. Always closes out and you have to relogin if your screen goes dark.
- It always disconnects so every time I open my phone or computer I have to constantly reconnect it and even sometimes when I'm in the middle of doing stuff it will just stop working and since there isn't really service on campus I can't use my hotspot so it's hard to get my work done because I feel like I'm having to mess with the wifi connection SO often.
- It disconnects from my phone after 10 minutes
- It disconnects randomly. Sometimes it'll go on for hours of continuous disconnecting. IPV4 restricts usage on your phones computers etc.
- it keeps disconnecting at random times

- It randomly cuts out in class from my phone and computer in the science building
- keep getting kicked off. have to turn wifi off and on and go through consent process again each time.
- Keeping the WiFi connection steady. The WiFi is not reliable
- Maintaining connectivity to the wi-fi during the workday is pretty nonexistent. Every time I open my phone I have to reconnect.
- My phone will disconnect throughout the day so I have to reconnect multiple times throughout the day.
- periodically kicks you off the wifi if you are on your personal cell phone
- Phone will not stay connected to Wi-Fi. I'm constantly getting kicked off. This is a problem because I don't get cell service in my office so I rely on Wi-Fi to do essentially anything that requires my phone. Sometimes it works so poorly that I have to walk across campus and stand out in the rain trying to find a cell signal so that I can view the mobile version of a webpage mockup. If I press send on a text there is a significant chance next time I look at my phone I'll discover the text never sent. I'm potentially unreachable in an emergency. It's frustrating and dangerous.
- Service drops out often
- Sometimes on my phone it will connect me then make me sign in, and after I do so, it makes me sign in again for no reason.
- Sometimes when I am connected, the wi-fi will just shut out and then reconnect or when I am connected I have to leave the wi-fi and go back to it.
- Sometimes when I try to accesses the internet it kicks me off
- The connectivity can be challenging and the actual quality isn't the best
- The WIFI often kicks me off and I have to re-sign in
- The wireless network is accessible, but then kicks me off after a minute or two, requiring another sign in. This happens in most areas of campus I am working in: CA building, the LRC, SC and Hum.
- Whenever I lock my phone or close my laptop it kicks me out and have to reconnect every time

- Wi-Fi will connect easily and then drop the connection every 30 seconds requiring the connection process over and over.
- You have to reconnect every time you leave a building and enter a new one. Sometimes the wifi just disconnects and doesn't tell you.

Challenging to Connect:

- AT Building has SHIT connection most of the time. I would almost never be able to successfully connect on my apple phone in that area. I could occassionally connect on my dell laptop in that area however not all the time.
- Connection was not always reliable, especially before and during upgrade. I still
 experienced connectivity issues after upgrade, but it worked well most of the time. One
 time, the Wi-Fi went down during a timed exam, but I was able to finish on a school
 computer.
- for my iPhone it's harder to connect because to get connected you have to get redirected to the website to confirm the Wi-Fi
- getting connected
- I cannot use the iPads we purchased for teaching because the wifi connection is not good enough in the Science building and we can't access it at all outside the building. It is extremely difficult to host or participate in zoom meetings on the wifi.
- I find it's definitely easier to connect inside buildings, When I try to connect outside buildings with my phone it sometimes disconnects and won't let me connect again so I have to click "forget" then enter the password again.
- I try to hook up my Mac on WiFi, but I keep having to log into my faculty account and sometimes I cannot do the process at all because apparently I need WiFi to log in, but I don't have WiFi to log in.
- I wish it was easier to connect automatically each time you go to campus and connect instead of having to re-verify disclosures.
- It can be challenging for some students to figure out how to get to the "Continue to the Internet" button and it's different for different operating systems, so troubleshooting can often take some time (although usually students can help each other). If I did not require

- students to connect to the internet for class, I think some might just give up and assume that the WiFi just doesn't work.
- It is sometimes slow to navigate away from the login in page and freezes. Sometimes the login prompt page will not pop-up.
- It's is sporadically really hard to figure out how to bring up the little check box that lets me connect to and use the wifi around campus.
- Loading errors
- My cell phone does not connect to the wireless internet even when I accept the terms on the load in/welcome page to the CR wi-fi, and cell service is not stable on the Eureka Campus already, so I often have difficulty connecting to the internet whether that be through wi-fi or cellular which is an inconvenience. When I try to access the internet on my iPad to complete assignments on Canvas, it doesn't always connect.
- My Chromebook usually connects alright to the Wifi, but my iPhone has a really difficult time connecting and even sending texts. Sometimes it's hard to even get connection enough to call.
- Not knowing the password to connect to the wifi
- Once in a while it will take more than one try to connect.
- Sometimes I can't get past the sign on screen and have to "forget" the network and reconnect before it will let me on. Also some sites and services are blocked which can make some things a nightmare.
- sometimes it doesn't pop up to validate to enter the wifi
- Sometimes the captive portal takes a while to load and it says retry in like 5 minutes or a
 minute. Other than that it's pretty good. I do wish cell phones in HU and SC buildings
 were able to pick up cell data
- Sometimes the login page won't load or on my phone it won't pop up but it's been a lot easier since the update. Much happier about it now!
- Sometimes the login will not load on my phone or computer, and my computer will often connect but not load.
- the duel login in is booty because i never have service or wifi. No one is trying to steal a students email

• The way the network is set up, older devices that can't display the login web page when connected cannot use it.

Weak Signal:

- In the administration building, I cannot even send a text message or make a phone call when connect to CR's wifi. I have a iphone 14 pro. I have tried Verizon and Mint mobile. I personally pay \$100 a month for a personal hotspot and have been doing so since for a few years. The hotspot allows me to make phone calls and receive text messages that other wise I could not. I should not have to pay money out of my own pocket to feel safe and connected.
- It just wont load anything and provides no service
- Lack of a strong and consistent signal. Especially in or outside the AT building complex.
- outside of the library I get weak service when the library closes early for summer and I have to be outside.
- Some areas of the Student Services Building and other areas on campus seem to have a weaker signal. Overall, I have seen improvement over the last several months.
- The signal is not strong enough and the Wi-Fi connection goes in and out even if I'm in my main office which is in a centralize area of the Eureka main campus.
- There is no service or WiFi between the parking lot and field house, and is weak around AJ.
- When I am in areas that don't have much service, such as the cafe and sometimes in the Lakeview room near the back of the Cafe. However, these are mainly issues for my phone. The wifi seems to work fine for my chromebook.
- wifi shows full bars but not loading at the art department

Limited Access:

- I find that I am often unable to access the "Redwoods WiFi" signal in my office (in AT-100). I just checked my phone as I was typing this out and it says "No Internet Connection" in the Settings window of the phone (in reference to the WiFi).
- access is intermittent and problematic in and around AT109
- Access wi-fi consistently, more so when multiple people are around.

- As I walk across campus I'll experience interruptions. Also, it seems as though there are different areas on campus that one must remember to log into on a laptop (different servers?).
- cannot get in at certain places
- Certain portions of campus are dead zones.
- Dead zones in the science bldg. I have to go outside to get a cell signal as the wifi will not allow my phone to receive text messages.
- DuI have trouble logging in places other then the library. I would like to be able to still work on work and eat lunch in my car. Not enough dry or quiet spots on campus when raining. To eat and work.
- I don't usually have issues in the building my office is located in. I guess, if there is a way to expand the area of coverage to the outside spaces in between buildings that would be great.
- Inconsistent, spotty
- Intermittent access, frequent trouble with access. Cannot rely on this for instruction in my classes.
- It really depends on the location. Sometimes works good, other times barely works at all.
- its spotty or glitchy in some areas. like by the windows of certain classrooms, or in the art building.
- I've been unable to complete Zoom meetings via my phone in the office (AT) or walking to and from other meetings on campus. I have also had difficulty using apps like Kahoot with classes, as students can not get the wifi to load for them (or experience significant lagging).
- No signal
- Some areas of buildings seem to be spotty coverage, you sometimes have to move to other parts of the building to get better WiFi
- Some challenges that I've faced was that there isn't WIFI where ever you go so you don't have access to WIFI very much, for example theirs no WIFI in the field house.
- The constant password change, the WiFi also doesn't really work for students in most buildings.

- the wifi gets a little spotty in some places but that's normal nothing too challenging overall.
- There isn't service so if you needed to call someone it doesn't work.
- Wi-Fi is spotty. In certain classrooms, i am unable to connect to the Wifi if needed.

Slow Speed:

- can't do homework sometimes because of slow speeds
- It is better than it used to be but still not very fast or reliable. I sometimes have to log out completely and log back in to get service. I still cannot access some games on my phone which would be nice during my lunch break. I feel like we are being punished for playing games which should not be an issue since we are upgrading to a much better system. A lot of this would be alleviated if we had a cell tower on campus to make it so everyone does not need the Wi-Fi. With students and faculty constantly on the devices for various reasons it is time to have more reliable access to them.
- log-in process is slow
- There are consistently challenges with speed of connection. This is particularly challenging when students are testing online.
- very slow
- When trying to research information the internet is very slow

Password is Challenging:

• Password "corsairs" can be difficult for some, how about "redwoods" instead?

Insufficient Bandwidth:

- Dorm WiFi had insufficient bandwidth for modern student usage.
- It is very inconsistent and doesn't allow certain actions to work. Such as Snapchat calls and facetimes.
- When I arrive at the Main Eureka campus for College of the Redwoods I lose all wi-fi, data, and phone service while I am there. Also, I used one of the art department's Ipads to complete an Art Assignment and upon completion, I was not able to submit the

assignment to Canvas. This problem remained unresolved even after the attempts of the Art instructor AND the IT department.

Responses that received two codes:

Disconnection & Challenging to Connect:

- can not connect in my office or classroom w/o going thru the CR Internet and it frequently disconnects me. Have to go outside to accept a simple phone call or send a text
- Difficult to log on and it kicks me off often.
- Difficulty connecting, difficulty staying connected, difficulty getting pages to load.
- I have had several instances of losing connection in the library, however these disruptions are usually short lived, however I have had times when re-establishing the connection takes several attempts. This has been disruptive to studying.
- I have to reconnect every time I open my phone. It is set to connect to the network automatically but I have to do it manually regardless, and agree to the terms each time. It sometimes tells me I have the wrong password, despite it being saved. I had never had an issue before this semester.
- I use the Wifi mainly in the Student Services/Admin building and don't usually have any problems with it. Occasionally I have trouble connecting or will get disconnected.
- It doesn't come in at our building it drops when we are on a meeting or won't even pick up the WiFi, often you have to reposition to find WiFi.
- It is really hard to get my devices to connect to the internet, it is also really difficult when the Wi-Fi constantly disconnects and won't reconnect.
- It takes a long time to connect and when you leave any of the buildings it disconnects and then won't connect again.
- it will sometimes not connect or disconnect me
- The wi-fi is continually down and frequently won't connect. Even when connected, it
 isn't uncommon to get kicked off. Additionally, cell reception on campus is horrific.
 These things need to be corrected immediately. Both are long overdue in being
 addressed.

- Wi-Fi drops every time my device goes "to sleep". Wi-Fi sometimes takes a while to connect to my device. Wi-Fi is very unstable and unreliable.
- wi-fi gets disconnected very frequently and it's hard to get internet access again
- Wifi not working on my phone when it says it's connected and wifi sometimes disconnecting from Chromebook
- At the Eureka Main campus, my phone won't work if it's not on the Wi-Fi. I have trouble connecting to Wi-Fi many days, and then when I do connect the connection is not very strong and it drops out in multiple locations around the campus.
- We sometimes can't get on the Wi-Fi at all in our office or anywhere back of the house. Once on, you will get knocked off several times a day, even with "auto-join" turned on. We can't place orders on our phones or use any of the ordering apps in the kitchen.

Disconnection & Weak Signal:

- Constantly have to reconnect. And even when connected not enough of a signal to do anything on the phone except send text messages. Literally have to reconnect every time I touch the phone.
- I get wi-fi great on my computer but when i connect my iphone it constantly disconnects due to "weak signal"
- The internet is spotty and will just drop at times. Sometimes my laptop will not connect in the library even when my phone is connected no problem. The wifi is week in the PE offices and classrooms and completely drops in the locker rooms. When it is working it is great but when it is going spotty it brings back the feeling of early 3G. Also why does the wifi not allow to look at Google shopping products on the search engine?

Disconnection & Limited Access:

- Dead zones in some locations on campus, constantly needing to sign back in on the same device, even multiple times in one day
- I always get kicked off the wi-fi throughout the day and I have to reconnect. There are also random places where I cannot connect to the internet.
- My phone won't stay connected, and the wifi also doesn't reach most areas of campus.
- -random disconnections -lack of any Wi-Fi in certain areas on campus.

- Repeated disconnections, not consistent connection in the same building.
- Walking between buildings. Phone calls can be hit or miss which is critical for coaches when recruiting. Calls will cut out even when moving within a building.
- While walking around main campus area, (Admin, LRC, Humanities), my WIFI will disconnect often.

Disconnection & Slow Speed:

- Extended loading times. Dropped wifi signals.
- I don't stay connected very well. I get bumped off frequently and quickly. I often can't get the application open quickly enough after getting connected to do anything.
- It disconnects frequently so I have to log on multiple times. The Wifi is slow and spotty. I have to refresh a lot. Sometimes it will connect but say the network has no internet connection sometimes for minutes, even inside the buildings like the library.
- Regularly disconnected. Slow service when I am connected. Having to reconnect every time I come on campus.
- The mbps in the LRC is low and I get disconnected from the wifi constantly, within five minutes of joining and sometimes right after joining.
- Very slow to connect. Loss of connection often.

Disconnection & Insufficient Bandwidth:

• Struggle to play games for leisure time, living in the dorms with no car this is needed for us. Struggle to stay connected. Also tons of things are blocked for us.

Challenging to Connect & Weak Signal:

- Many times it requires multiple sign-in attempts. Signal is not strong in many parts of campus and or in classrooms.
- Troubles with connecting to Wi-Fi and having quality internet strength.

Challenging to Connect & Limited Access:

• I tutor students in the Admin building on the first floor. Some days the wi-fi is great.

Other days, you can't connect to it at all which is especially frustrating for students who

bring in their laptops with their notes and essays, and then have a hard time accessing them during our tutoring session due to the wi-fi not working. When it does work, it is great! But it seems like it is 70% working, 30% still not working which is frustrating for students who are studying. Thank you for your help with this!!

- Spotty WiFi access throughout campus. Unreliable to get on.
- There is little cellular reception in the building, so it makes it difficult just to use the phone to access the wi-fi.

Challenging to Connect & Slow Speed:

- Connection and loading speeds.
- slow connection. repeatedly having to log in

Weak Signal & Limited Access:

- The KT site has not been a priority when it came to expanding the coverage for the Wifi.
 Many of our rural students rely on the KT campus for internet, so it would be beneficial if the signal was strong enough to reach the parking lot for the times when the building is closed.
- There is no service or WiFi between the parking lot and field house, and is weak around AJ.
- Didn't know there was wifi available at first, not all buildings have QR codes. Sometimes coverages isn't as strong on east side of campus
- There are spots on campus (especially in the HU building) that don't receive wi-fi signals at all--or the signal they do receive is very weak

Limited Access & Slow Speed:

- Actually being able to get a Wi-Fi signal is very hit-or-miss across campus. I am not able
 to make calls from my Android cell phone in my office. Many websites either take
 forever to load or simply won't load when I'm on Wi-Fi. I basically don't even try to
 access many sites anymore.
- slow to connnect, slow to work, poor coverage (only in buildings, not broadly across campus)

Slow Speed & Insufficient Bandwidth:

• The WI-FI is usually very slow in the dorms and doesn't work when on FaceTime calls.

Responses that received three codes:

Disconnection, Challenging to Connect & Limited Access:

- Difficulty connecting sometimes, complete inability to connect in some places, but the worst thing is that once I connect I get bumped off every 15-20 minutes so I spend an inordinate amount of time every day reconnecting.
- When the internet works as it is intended to, it is relatively easy to connect to Wifi (some students are annoyed by the check in page, and by having to re-check in in order to reconnect after moving to a new building/location on campus). However, coverage across campus locations is limited. Even in good coverage zones, the Wifi/Internet frequently goes out altogether.

Disconnection, Challenging to Connect, Password is Challenging:

• My iPhone 13 disconnects from the wifi everytime I turn off the screen. The network login page (which is entirely an unnecessary impediment) often does not pop up on my computers, iPad and iPhone when connecting to the wifi. Sometimes the wifi will also reject the correct password. Please, please. Just have open wifi or just have the password. Please STOP with the login page! It makes it extremely difficult to get on to the wifi. This is a SAFTEY issue with how poor cell reception is in the Science building. I have never seen another school handle their wifi like this. They either have open wifi or use the school login username and password to log in to wifi.

Disconnection, Weak Signal, Limited Access:

Wi-Fi is almost non-existent, the signal that we get is inconsistent and usually weak.
 Often we are dropped from the wi-fi and need to reconnect.

Disconnection, Slow Speed & Insufficient Bandwidth:

• Many dead spots, especially inside of buildings. Many dorms don't receive reliable wifi. Some dorms receive very slow wifi. Wi-Fi performance drops dramatically when people in adjacent rooms use computers or other "bandwidth hogging" devices. Wi-Fi performance is best when no one around you is using Wi-Fi.