SECI 2143 / SCSI 2143

(PROBABILITY & STATICTICAL DATA ANALYSIS)

Project 1

Report and the Analysis Result

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Section   : 04

Group name : abc xyz

Group member :	Matrix Number:
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What we have in this report :

Forehead :

Written by abc xyz

In 2019/2020, our Network and Security course among School of Computing, Faculty of Engineering have an important project on the subject of Probability and Statistic Data Analysis.

In this project, we have been required to make a research on a few questions among University Teknologi Malaysia Johor students and get an amount to make a conclusion for our statistical analysis. This project must be done in group of 3 to 4 members. To finalize the project, we need to make a presentation of the data collected and give conclusion in a report and video on how the process been done.

There is also a list of rubrics must be followed to full fill the assessments. It has been separated into few categories to ease our understanding in what is needed at the end of the project. For example, the data type, graphical presentation on data, report, video presentation and e-portfolio of each member.

The report must be summited before 30th April 2020 on the e-learning in UTM portal. All the submission must be zipped in a folder to ease the submission and keep the folder in safe.

R programming and Google form been used as supportive applications to finish our works in full entertainments and simple to be understand.

Preface :

In our group, there are 3 efficient members who are Ng Pei Wen, Teng Jia Jing and Angelica. The 3 of us been communicate to each other and will discuss every week on improving our progress to finish the project on time and do our best until the end.

At the beginning, we been struggled a lot and being annoyed on creating the suitable questions to be questionnaire among students. As a result, we choose a main topic as the statistic of time School of Computing students on going to class.

We made a Google form and shared it among Computing students for 1 week before we end up. We collected 165 student respondents to get the more accurate data and easy to be analysed the data and choose some appropriate

graphic data presentation to finalize the respondents into bar chart, stem and leaf, histogram and otherwise. For special requirement that been used in presenting those data in charts. We need to use R programming to present all the data in charts and can be conclude in a lot of information.

We learn a lot of the simple programming on R and R studio as well to be used in same time. By using R programming, the data can be transformed into those charts and graphs to let us understand what can we get the results from what we want at first and achieve our objectives successfully. From the charts and graphs, we can also elaborate and find out the central tendency, data profiles and some dispersion measurement.

We combine it all in this report to give a finalize and it is a way to explain all the data collections in statistical analysis by calculations and data presenting. For extra performance, we will have a video on this project about the process and results we get hence it will be the presentation for our group.

Objectives:

The purpose of this project been done about our chosen topic is to figure out either UTM computing students come to class on time or late or straight skip the classes. From our data collection we combine it and a finalize and represent to others and from this project we will learn how to do the statistical analysis.

Other than this, we also want to find out what is the mean of the time students get prepared before going to class, the duration from their kolej to the faculty, average spending on their meal before class and also what is the percentage of the students late to class per week. The reason of attending classes late is also collected so we can interpret the data more precise.

Methodology:

In this project, we use a lot of tools to help us, such as R programming, Google form and media social (sources of respondents). These tools are useful as they can help us finish the project easily.

First, google form has been used and help us to collect all the data into Excel format and easily to download and save the data collected. The achievement in the beginning means a lot as it gives us resources to do the project.

Next, we used R programming for data interpret. It's a simple and functionable tools to help us summarize all the data into group and analyse the central tendency, and give all accurate calculations. We just need to mention what type of charts and which table we want and it can perform when we table all those data in correct way. It's a new knowledge we learnt while doing this analysis.

Lastly, we use our worldwide social media to share our google form to get our respondents. We use it wisely and it help us on finishing our semester project.

Result of Data Collected

In this report, we have collected a total of 165 responds from the students of Faculty of engineering, School of Computing, University Teknologi Malaysia, Johor Bharu.
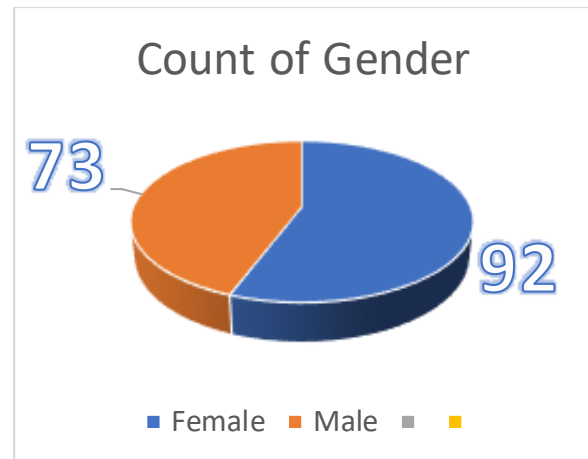

Graph 4.1 shows count of respondents' gender

Graph 4.1 show the count of the respondent' gender. After collecting all the data, we found that there are total 165 respondents where 92 are female and 73 respondents are male. From the data, the majority respondents are female which has 55.76% compare to male respondents which is 44.24%.
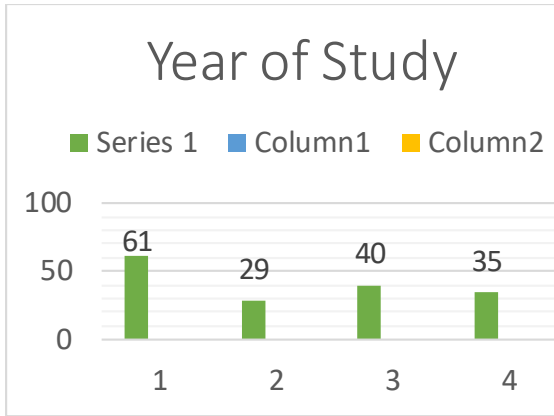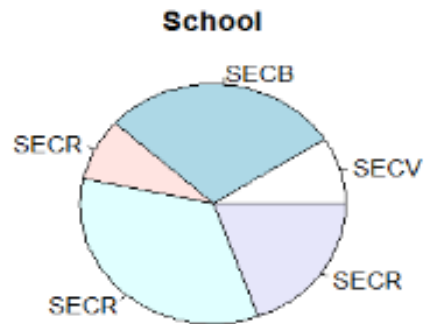
Graph 4.2 shows the frequency of
respondents according to year of study

Graph 4.2 show the frequency of
respondents according to the year of
study. From the table and graph, we
know that there are 61, 29, 40 and 35 of
Year-1, Year-2, Year3 and Year-4
students respectively. Majority of the
respondents is from Year-1 where it has
a high percentage 36.97% compared to
the minority that is Year-2 students
which only has 17.58%.
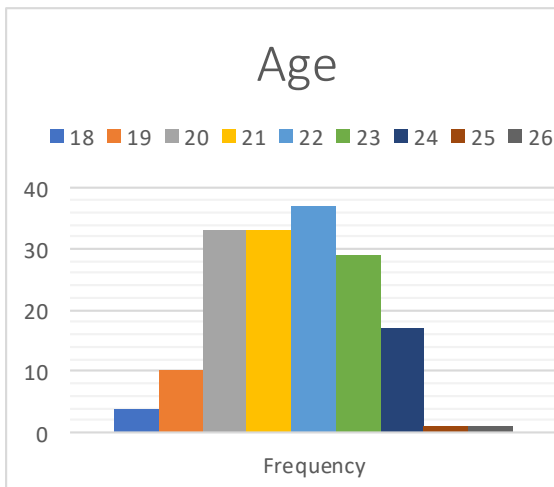
Graph 4.3 shows the frequency of
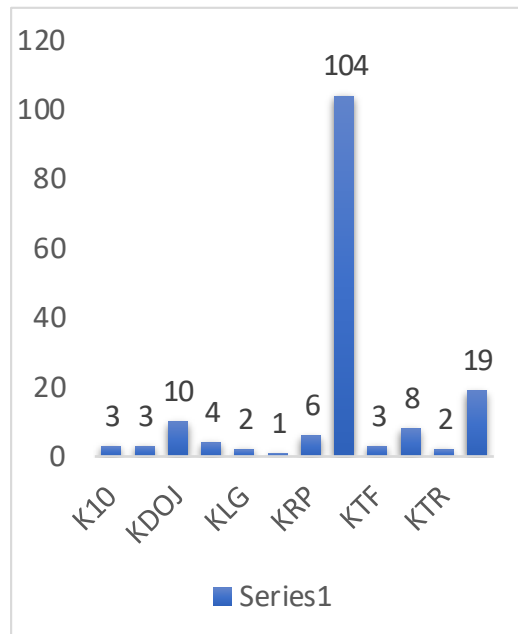respondents according to their age.

Table 4.3 and Graph 4.3 show
the frequency of respondents according
to their age. From the data above, we
can calculate that the range of
respondents' age is equals to 37 – 1 =
36. The age group 18, 19, 20, 21, 22, 23,
24, 25 and 26 have frequencies 4, 10, 33,
33, 37, 29, 17, 1 and 1 respectively. The
highest percentage of the age group is
22 which has 22.42% while the lowest
percentage is 0.61% where there are
two age group have the same
percentage which are 25 and 26.

Graph 4.4 shows the frequency of
respondents according to their school

Graph 4.4 show the frequency
of respondents according to their school.
The number of respondents for SECB,
SECJ, SECP, SECR and SECV are 15,
48, 14, 56 and 32 respectively. The
highest frequency is 56 which belongs

to SECR and occupies 33.94% while the lowest frequency and percentage is 14 and 8.48% which belong to SECP.

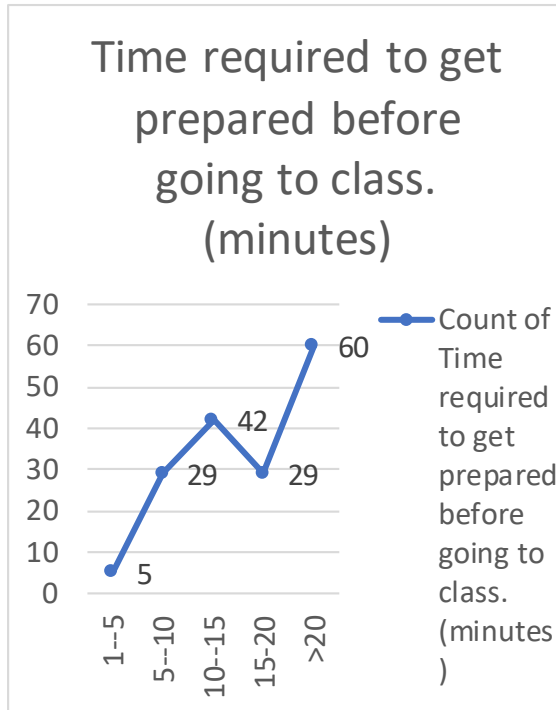*Graph 4.5 shows the frequency of respondents according to their Kolej*

Graph 4.5 show the frequency of respondents according to their Kolej. K10, K9, KDOJ, KDSE, KLG, KP, KRP, KTDI, KTF, KTHO, KTR and Outside Campus have different frequency of 3, 3, 10, 4, 2, 1, 6, 104, 3, 8, 2 and 19 respectively. From the data, we can conclude that most of the students who submit the responds are from Kolej KTDI where 104 respondents are from Kolej KTDI which has percentage 63.03%.
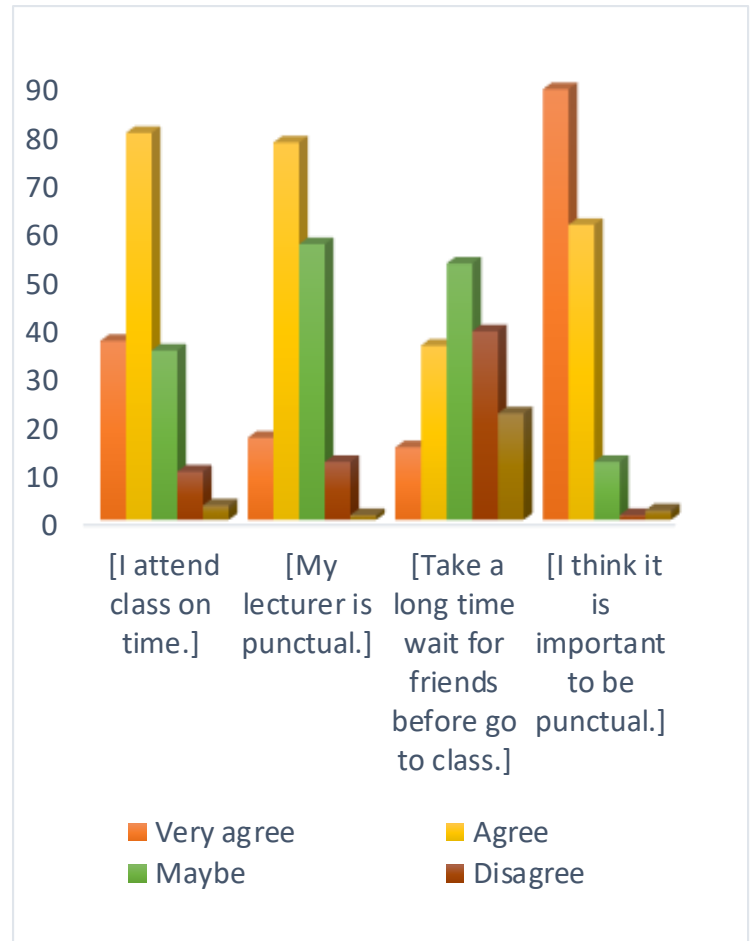
*Graph 4.6 shows the Likert Scale Result*

Based on Graph 4.6, we can know the ideas of students toward four statement that are "I attend class on time", "My lecturer is punctual", "Take a long time wait for friends before go to class" and "I think it is important to be punctual". Majority of the students (48.48%) rate "agree" to the statements "I attend class on time" and "My lecturer is punctual" (48.48% and 47.27% respectively), 53 students (32.12%) rate "Maybe" for statement "Take a long time wait for friends before go to class" while 89 students (53.94%) rate "Very

Agree" for statement "I think it is important to be punctual".

## Time required to get prepared before going to class. (minutes)

Graph 4.7 shows the frequency for time required to get prepared before class

Graph 4.7 shows the frequency for time required to get prepared before class. From total of 165 respondents 60 respondents (36.36%) need more than 20 minutes to get prepared before going to class while only 5 respondents (3.03%) required 1 to 5 minutes to get themselves prepared.
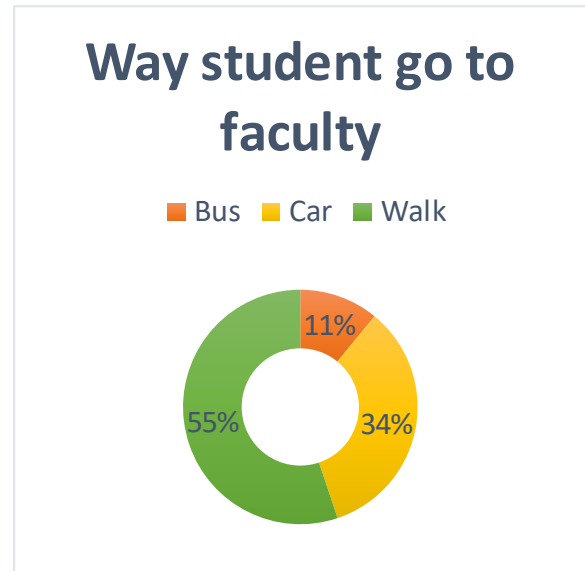
Way student go to faculty

Graph 4.8 shows the frequency of way student go to faculty

Graph 4.8 shows the frequency of way student go to faculty which are walk, bus and car with frequency 91, 18 and 56 respectively. Majority of the students (91 students which equals to 55.15%) walk to faculty while only 18 students (1.09%) take a bus to the faculty.
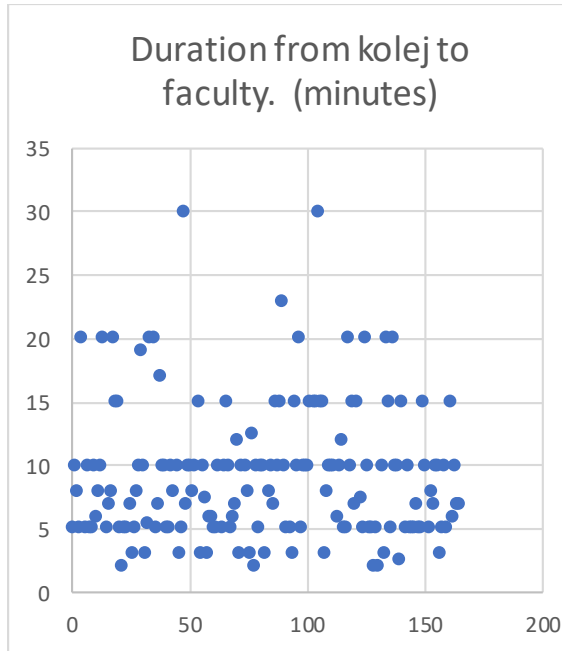
Duration from kolej to faculty. (minutes)

Graph 4.9 shows the duration from kolej to faculty (minutes)

Graph 4.9 shows the duration from kolej to faculty (minutes). From the graph above, we can know that most of the respondents take 5 to 10 minutes of duration from their kolej to faculty. The duration of the respondents can be affected by the other factors such as how they go to faculty and also the distance between their kolej and the faculty.

Time Arrival to Class of 165 Students
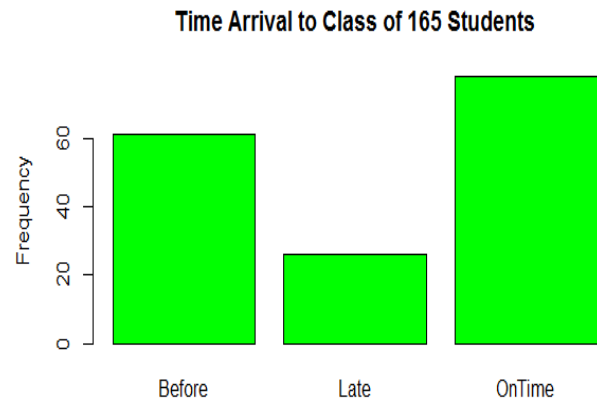
Graph 4.10 shows the frequency of time arrival to class of 165 students

Table 4.10 and Graph 4.10 show the time arrival to class of 165 students. From the data above, we can know that most of the students arrive before class or just on time where 61 students (36.97%) and 78 (47.27%) students respectively. Only 26 students late to the class where it has percentage of 15.76%.

Number of classes per week
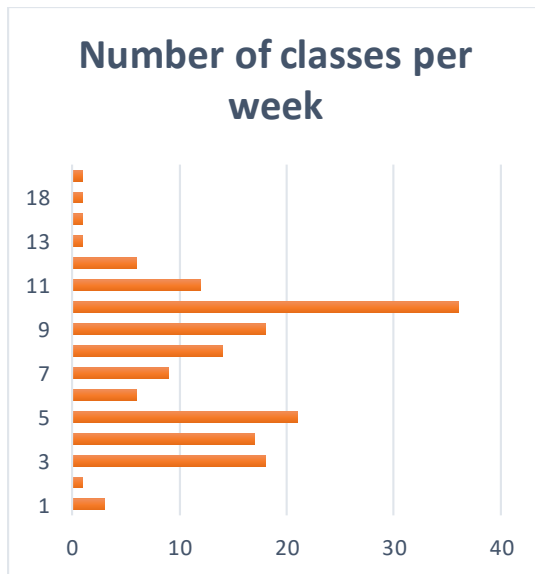
Graph 4.11 shows frequency of the number of classes per week

Based on table 4.11 and Graph 4.11, we can know that majority of the students have 10 classes per week that is 36 students which has percentage 21.82% while for 2, 13, 14, 18 and 19 classes have only 1 student each (0.61%).

No of times late to class per week
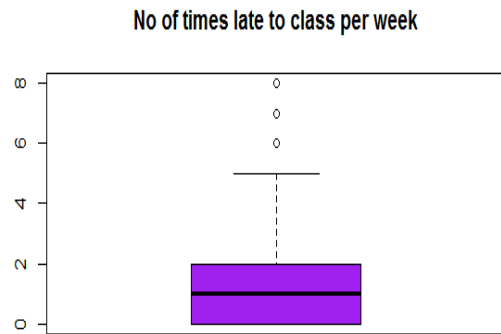

Graph 4.12 shows the boxplot number of times student late to class per week

Graph 4.12 shows number of times student late to class per week. Majority of the respondents that is 54 respondents had never late to class which occupies 32.73% while 7 respondents have late to class more than 5 times per week, that is 6, 7 and 8 times where has 1, 5 and 1 respondent respectively.

HAVE YOU EVER LATE TO CLASS?

■ No ■ Yes

26% =43

74% =122
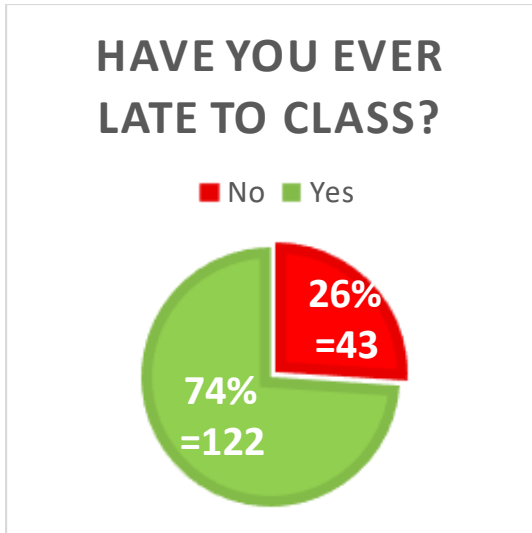
Graph 4.13 shows the frequency of student ever late to class.

From the graph 4.13, 122 respondents have the experience of coming late to class while only 43 respondents have never late to class. Hence, we calculated that 73.94% of the students have been late to class while 26.06% of the students had always attending the class on time.

Do you have meal before class ?

Number of students

100

50

0
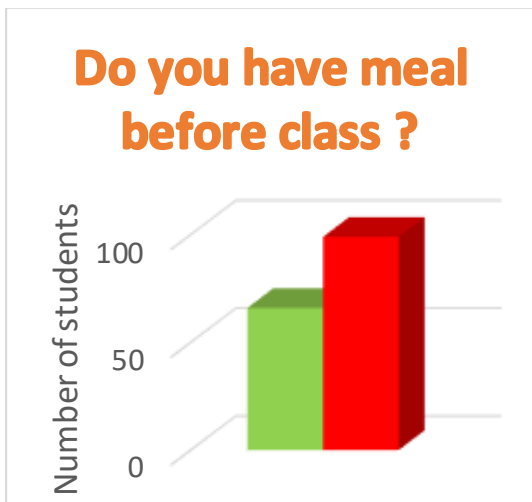
Graph 4.14 shows the frequency of students have meal before class

According to graph 4.14, it shows that 99 respondents do not have their meal before class while 66 respondents have their meals before class. Majority of the students that is 60% of the students do not have their breakfast or lunch before class while only 40% of students have their meals before attending class.

Average spending on that meal before class (RM)

■ 0--2

■ 2--4

■ 4--6
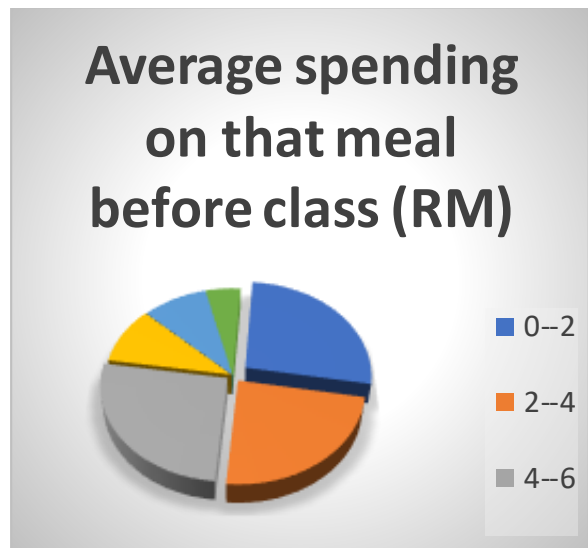
Graph 4.15 shows the frequency of students' average spending on that meal (RM)

Based on graph 4.15, 44 students (26.67%) which is majority of the respondents spend RM0 to Rm2 on their meal before class where it states that 44 of them either do not eat before class or only have bread for that meal.

On the other hand, there are 8 respondents (4.85%) who spend more than RM10 on the meal before class.

DISCUSSION

Based on the objectives stated before, this project is to understand the view of FC (School of Computing) students on punctuality and their average time arrival to class.

Statement	Very Agree	Agree	Maybe	Disagree	Very Disagree
I attend class on time.	37	80	35	10	3
My lecturer is punctual.	17	78	57	12	1
Take a long time to wait for friends before going to class.	15	36	53	39	22
I think it is important to be punctual.	89	61	12	1	2

From the Likert scale above shown that 71% of the respondents agree that they attend class on time while 8% of the respondents disagree about this statement which shows that they will late to class and the rest of 21%

respondents vote for 'Maybe', show that sometimes they will late to class.

Besides, 57.6% of respondents agree that their lecturer is punctual while 7.9% of respondents do not think that their lecturer is punctual and the rest of 34.5% of respondents vote for 'Maybe'. Next, 31% of respondents agree that they take a long time to wait for friends before going to class while 37% of respondents disagree about this statement. There is 53 respondents (32%) vote for 'Maybe'. We think that these 2 statements are the factors that may cause students late to class.

We also can observe that majority of the respondents (91%) agree that it is important to be punctual in their daily life while 3 respondents (2%) disagree about this statement and 12 respondents vote for 'Maybe'.

According to graph 4.10, we can observe that most of the students arrive before class or just on time where 61 students (36.97%) and 78 students (47.27%) respectively. Only 26 students late to the class where it has a percentage of 15.76%. The data clearly showed that the majority of the students will attend the class punctually.

Apart from that, based on the mean of the number of classes per week and the mean of number of times students late to class per week that obtained from R Studio, we can

calculate the percentage of students late to class per week.

Mean of the number of classes per week, $\bar{x}_1 = 7.47$,

Mean of the number of times student late to class per week, $\bar{x}_2 = 1.63$

Percentage students late to class per week $= \dfrac{\bar{x}_2}{\bar{x}_1} \times 100\%$

$$= \dfrac{1.63}{7.47} \times 100\%$$

$$= 21.82\ \%$$

Moreover, based on the mean of time required to get prepared before class (minutes) and the mean of the duration from kolej to faculty (minutes), we can calculate the average time that students need to arrive at their faculty.

Time (minutes)	Frequency	Midpoint
1-5	5	3
5-10	29	7.5
10-15	42	12.5
15-20	29	17.5
>20	60	22.5
	$\sum x =$	2615

Mean of time required to get prepared before class (minutes), $\bar{x}_3 = \dfrac{2615}{165}$

$$= 15.85\ \text{minutes}$$

Mean of the duration from kolej to faculty (minutes), $\bar{x}_4 = 9.18$ minutes

Average time that students need to arrive at their faculty $= 15.85 + 9.18$

$= 25.03$ minutes ≈ 25 minutes.

According to the calculated data above, we can know that the average time that students needed to arrive at their faculty from kolej is about 25 minutes.

CONCLUSION

Based on the survey, we have collected 165 samples of data which contribute by 61 respondents from First Year students, 29 respondents from Second Year students, 40 respondents from Third Year students and 35 respondents from Fourth Year students. Among these 165 respondents, 122 students (73.94%) admit that they have late to class in their university life while 43 students (23.06) said that they are never late to class before. We provide some choices (respondents can select more than one choice) as their reason why students will late to class. The most voted reason is that they wake up late which 92 respondents vote for this. Furthermore, 32 students said that the distance between kolej and faculty is

too far and 23 students said that they have a sudden event before class. There are also have some other reasons such as there is no gap between classes, they have to wait for their friends or they said that the bus driver is not punctual. For the students who live outside the campus, most of them come late because of the traffic issues.

Students need an average time of 25 minutes to arrive at their faculty. If they wake up late, high probability the students will late to class. Besides, we observed that 60 % of the students do not have their meals before class. We found that this may be the reason some students faint on their way of going to class. This bad habit can cause the students to face health problems such as gastric in the future.

In conclusion, we must be punctual as a student. This is because some of the lecturers do not like their students come late to their class. It may affect the lecturer's mood to continue the lecture when a late student comes in. Despite a student has an excellent academic result, he/she is having a bad attitude if the student does not have the habit of being punctual. Therefore, we must develop a good habit of punctuality from now and we have to stay healthy.