

Self-Check / Evaluation of “APU Data Science Program (Basic)” in the AY 2023 Spring Semester

1. Background to the Self-Check / Evaluation

The government’s “AI Strategy 2019 ~ AI for all People / Industries / Regions / Government (Resolved 2019.06.11, Integrated Innovation Strategy Promotion Council) set as a major goal “basic knowledge required for a digital society (reading, writing, and abacus) as well as knowledge and skills related to mathematics, data science, and AI, basic skills necessary to design new ways of society and products and services for a sustainable society, and for human resources to play an active role in all fields of society.”

In response to this, as part of our “APU Data Science Program (Basic),” we began offering on-demand courses: “Special Lecture (Liberal Arts Course)” in the AY 2022 fall semester, and “Information Literacy” in the AY 2023 fall semester. On August 25, 2023 this program was certified by the Ministry of Education, Culture, Sports, Science and Technology as a Mathematics, Data Science, and AI Education Program (Literacy Level) (“Accreditation as a Mathematics, Data Science, and AI Education Program (Literacy Level)” 2023.09.20, APU Executives’ Meeting).

To ensure the quality of this educational program, and to make further improvements, we herein report and analyze the results of the class evaluation surveys and course-original surveys for these courses, and carry out self-check and self-evaluation as shown below.

2. Self-Check / Self Evaluation of “APU Data Science Program (Basic)”

(1) Course Overview

Subject Name	AY 2023 Spring Semester Classes Information Literacy JA Information Literacy JB Information Literacy JC Information Literacy EA
Field	Common Liberal Arts (Societal Needs / Fundamental Skills)
Grade Level	100 Level
Targets	All 1 st Semester 2023 Curriculum students
Course Registration Method	Automatically registered by the university in the 1 st semester. If students decide they do not need to register the course, they can drop it themselves during course registration period B or Course Correction period 1. Can also re-register the course themselves after dropping it. Students in their 2 nd semester or higher, or transfer students in their 2 nd year or above, cannot register the course.
Language	J/E
Class Size	245 students

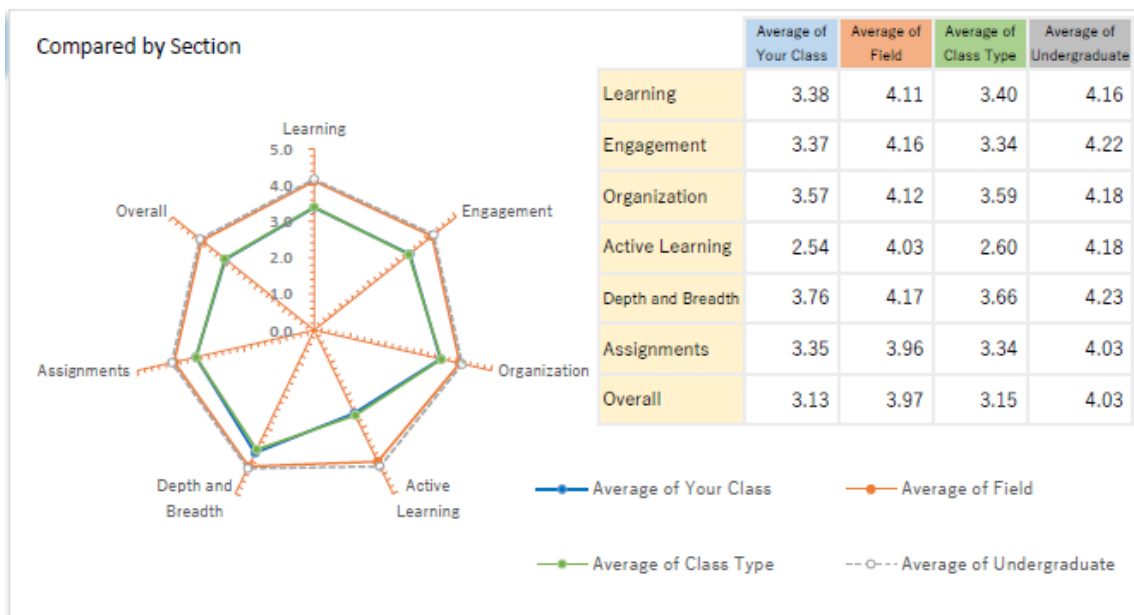
Course Format	On Demand
Grading	P/F
Semester	Spring / Fall
Course Description (from syllabus)	This course will discuss introductory topics of internet and data science in terms of basic concepts, data processing skills, entry level knowledge to data science, and awareness on business applications and information ethics, in real-world context. (1) Internet, information and changes happening in society (2) collecting, reading, processing and utilizing data (3) technology trends in AI in data science (4) state of the art business trends in AI and data science applications and information ethics.
Instructor in Charge of Grading	AY 2023 Spring Semester Instructors in Charge of Grading NISHANTHA Giguruwa APS Professor (JA, EA) DAHLAN Nariman EDLSC Associate Professor (JB) NGUYEN Chung Huu EDLSC Part Time Lecturer (JC)

(2) No. of Students who Registered for and Passed the Course

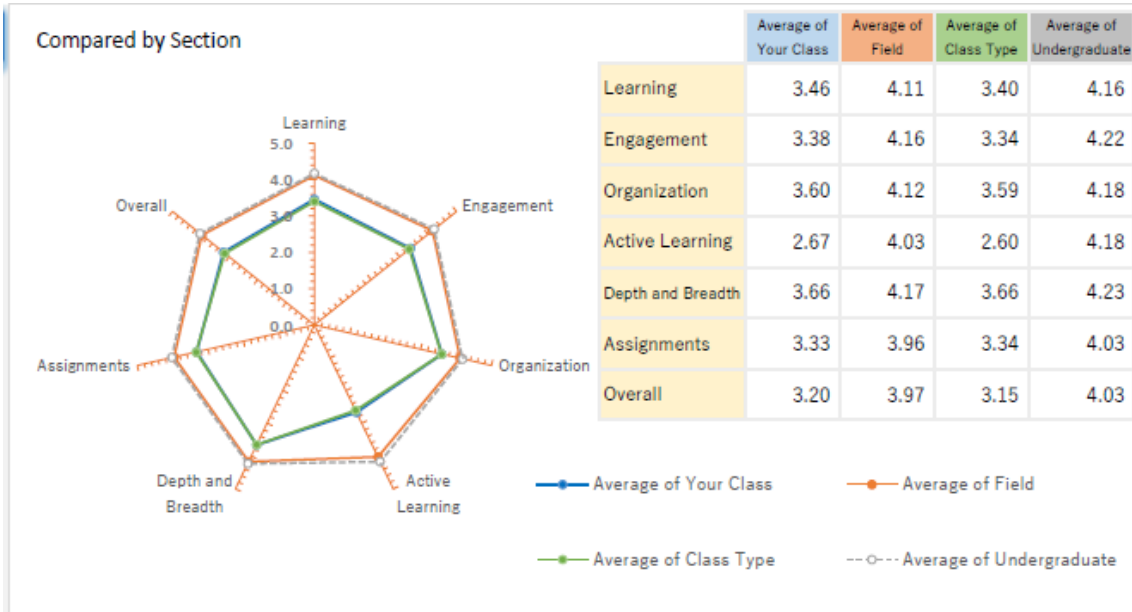
Course Name	Registered	Passed	Pass Rate
Information Literacy JA	199	193	97.0%
Information Literacy JB	207	177	85.5%
Information Literacy JC	221	214	96.8%
Information Literacy EA	218	209	95.9%

(3) Class Evaluation Survey

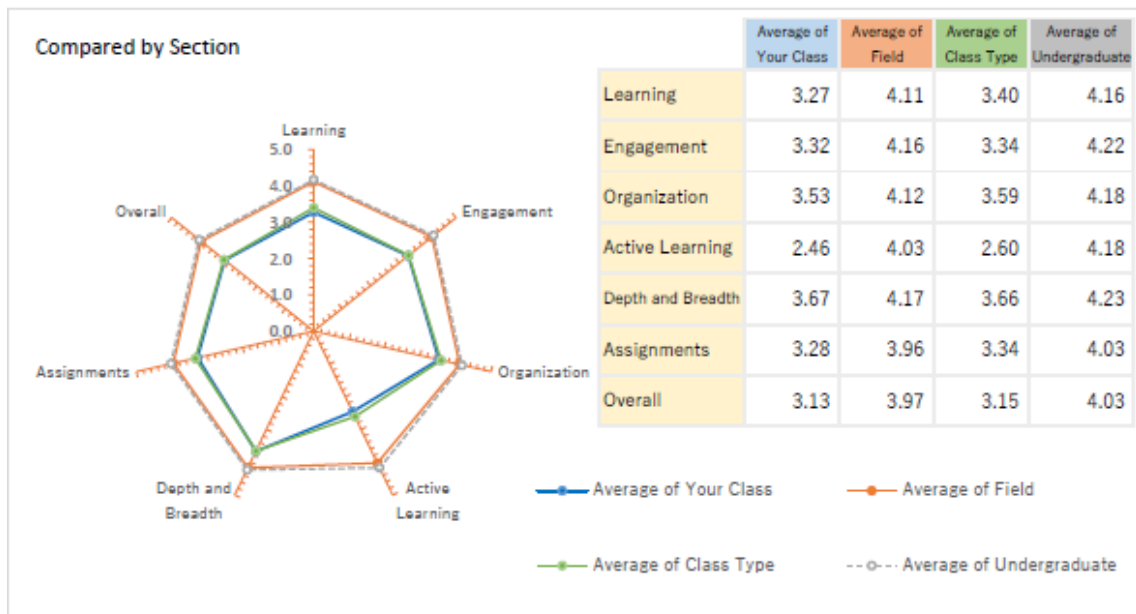
• Information Literacy JA : Survey Respondents: 52, Response Rate: 25.9%



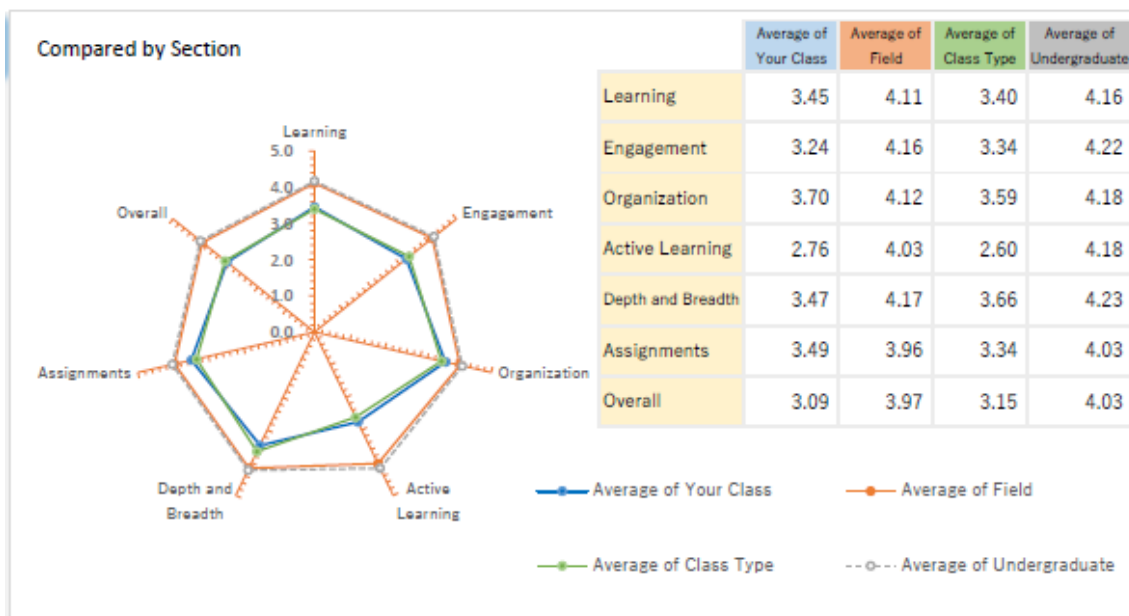
• Information Literacy JB : Survey Respondents: 103, Response Rate: 49.8%



• Information Literacy JC : Survey Respondents: 63, Response Rate: 28.5%



• Information Literacy EA : Survey Respondents: 37, Response Rate: 17.0%



• Comparison with AY 2022 Fall Semester “Special Lecture (Common Liberal Arts Subject)” (On-Demand)

Type of Question	2023 SP Information Literacy Average	2022 FA Special Lecture (On Demand) Average
Learning	3.40	4.26
Engagement	3.34	4.08
Organization	3.59	4.23
Active Learning	2.60	3.25
Depth and Breadth	3.66	4.23
Assignments	3.34	4.10
Overall	3.15	4.01

• Self-Check / Self Evaluation

This time, the survey results were lower for all areas compared to the on-demand subject "Special Lecture (Common Liberal Arts Subject)" offered in the fall semester of 2022. The course content and class recordings themselves were not changed, except for some minor corrections, so it is thought that the reason for the drop in the survey results is the change in the registration method and target students. Last time the course was an elective course with a class size of 65, and students had to register for the course themselves. This year, the class size was set to 245, and it was automatically registered for all 1st semester students only. Students had the option of dropping the course during the course registration period, but it seems that there were still a number of students who did not take the course willingly. In

the free response section of the survey, some students expressed doubts about the relevance of the course and the fact that it had been automatically registered for them, so we reviewed the information about this course that the course instructor shared with students at new student orientation. Going forward we would like to share additional information about the course including the content and importance of the course, how to register (drop) the course, and how to take the course.

In addition, even for on-demand courses we still need to ensure students have a way of discussing topics with other students and asking the course instructor questions, so we made use of the LMS discussion function for this purpose, but the Active Learning scores were still comparatively lower this time. Due to the nature of on-demand courses, it is natural that the active learning scores will be lower than those of in-person classes, but we will continue to make improvements so that students do not feel disappointed with the course. One of the possible reasons for the lower Active Learning scores this time is that we were unable to respond to students' questions in a timely manner compared to the AY 2022 fall semester course. In the AY 2022 fall semester the class size was set to 65, but in the AY 2023 fall semester each class had 245 1st semester students, so we saw a significant increase in the number of questions for instructors and TAs. In order to be able to properly respond to student questions and inquiries, we will propose that TAs be assigned to this course under the AY 2024 TA allocation policy, and ask that from AY 2024 onwards the instructor and TAs work together to respond to students in a timely manner.

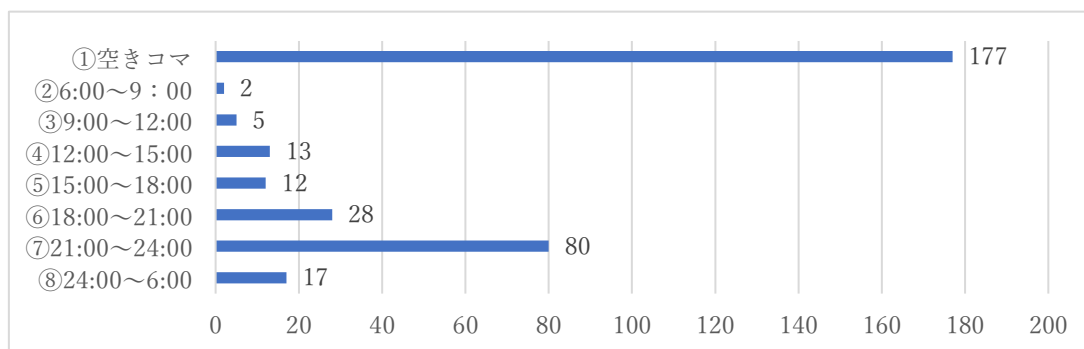
Depth and Breadth received higher scores than the other areas, indicating that students were able to grasp the data processing and data science concepts and theories through the course. In the class evaluation survey some students commented that the content was difficult, but many others said they were glad they could learn about AI and information science.

(4) Original Survey of “Special Lecture (Common Liberal Arts)”

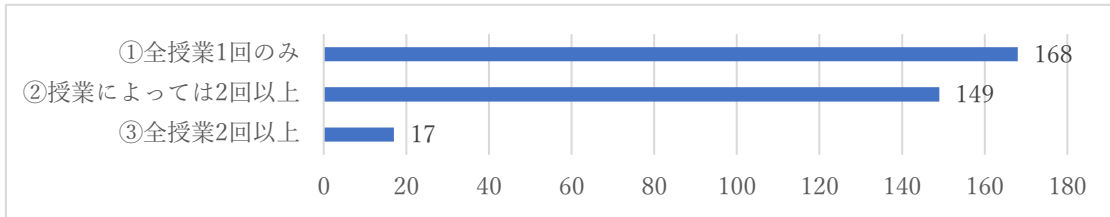
Since this course is different from other regular courses, in addition to the regular class evaluation survey we held an additional survey with questions just for the On-Demand course.

- Survey respondents: 334

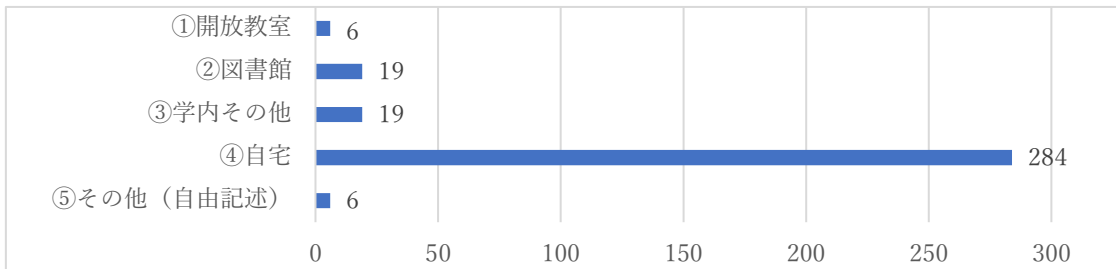
Q1: Please tell us the main times when you watched this course.



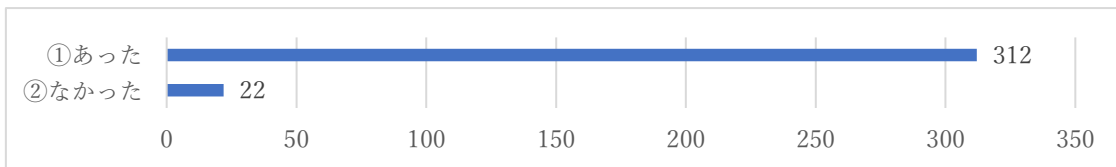
Q2: Please tell us the number of times you watched the classes.



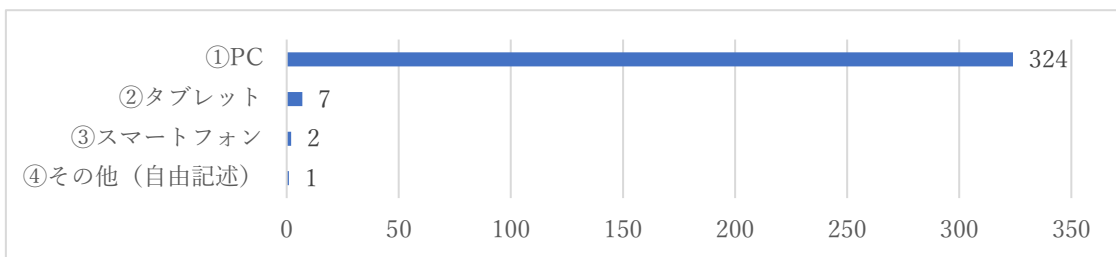
Q3: Where did you mainly watch the classes?



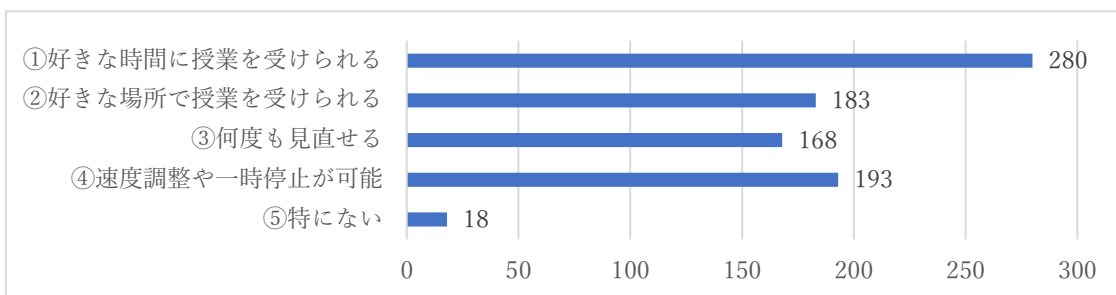
Q4: Did you pause, fast forward, or rewind the videos?



Q5: What device did you use to watch the classes?



Q6: Please tell us the good points of on-demand courses. (Multiple answers accepted)



Q7: Please tell us any negative points about your on-demand classes. (Free response) (Copied as-is, excerpted from student responses)

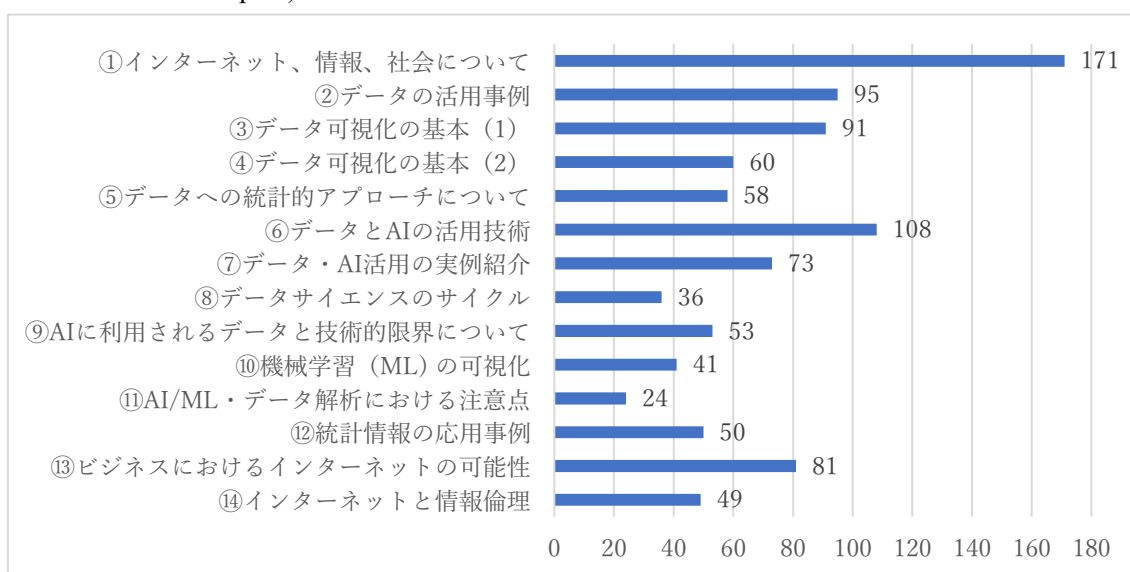
- I think it was a great experience overall but the rewind and forwarding functions on moodle aren't very good. It only rewinds or forwards many minutes at a time which isn't ideal if we just want to listen to a certain sentence again
- I do know it's on demand, so I sometimes forget I had this class.
- It's little boring, and I forget taking classes sometimes.
- Cannot ask what I need to know immediately.
- I think I prefer this course to be on campus one. I think on-demand courses is not suitable for unorganized people like me. The content of the course is interesting. If we have the chance to study on campus, I think I will have more motivation to study more seriously. Studying on-campus also offers a chance to speak and communicate with other people so that I may understand the lecture from more than one perspective.
- Can't see previous answer of the quiz
- I don't have any specific bad experiences
- 他の受講生と意見を交わすことができない
- クイズの回答で、どこがあっいて、どこが間違えているのかがわからず、自分がどこを理解していて、どこを理解していないのかがわからなかった。
- クイズの回答が見れないこと
- よく意味が分からないことをそのままにしがちなこと
- いつでも見れて時間が決まってないぶんやる気が起きないと取り掛からなかった
- 好きな時間に授業を受けられる反面、一回受けなかったらどんどん授業が溜まっていくのが悪かった。
- 目が疲れる。
- すぐにわからなかったことが解決できない。
- モチベーション維持が大変
- リマインドがないため忘れてしまうことが多かった
- 評定が正しく反映されているのか不安になる。わかりにくい。
- 自由だからこそスケジュール管理が難しい
- ネット環境がある場所でしかできないこと

Q8: Did you have any difficulties with your on-demand classes? (Free response) (Copied as-is, excerpted from student responses)

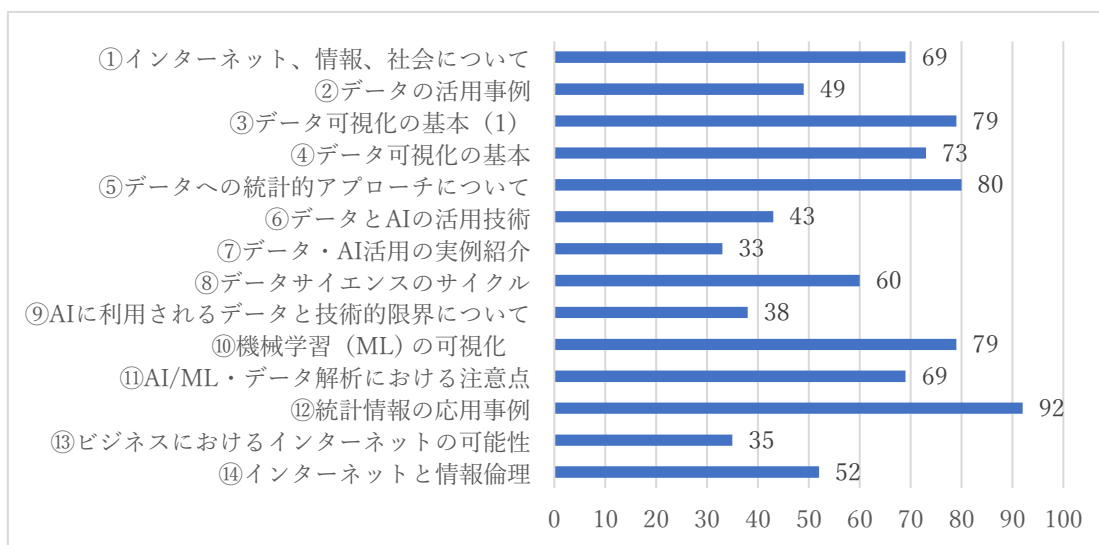
- Questions part was quite complicated. I think it is better the lecture and the questions in two portals.
- Time management
- nothing in particular
- ためてしまうと追いつくのに大変だった
- クイズが難しい期限があること
- 特にありません。
- PCで1時間半くらいの視聴はきつかったし、クイズの時には忘れてしまっている。

- ・ 一方的に話を聞くだけなので集中力を保つことが大変だった。
- ・ 何度でも聞けると思うと、怠けてしまう。
- ・ クイズでどこが正解でどこが不正解なのかが確認できない点
- ・ 自分の時間管理が難しかった。
- ・ Wi-Fi がつながらないときは困っていた
- ・ 説明が windows 向けだった点。
- ・ quiz はちょっと難しいと思う

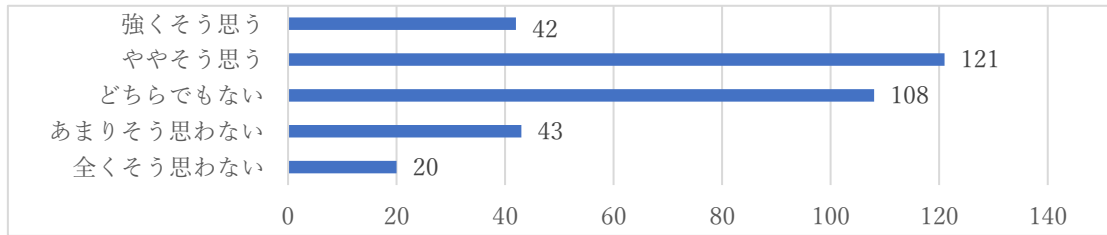
Q9: Please choose your 3 favorite topics from the list of on-demand course class topics. (Multiple answers accepted)



Q10: Please choose your 3 least liked topics from the list of on-demand course class topics. (Multiple answers accepted)



Q11: Would you recommend this course to your juniors?



Q12: Do you have any suggestions for further promoting learning between the instructor, TAs, and other students? (Free response) (Copied as-is, excerpted from student responses)

- I would like to recommend using Hybrid classes.
- group discussion and revision sessions with TA
- 内容理解のためにグループに分ける
- 班を作成しオープンチャットで議論する
- 教室開放
- 勉強会など、集まってやる機会を設ける
- 動画視聴は一人でするよりも、友達と何曜日の何限にやる、と決めて一緒にみると良い
- 定期的集まる機会を作る
- 特にありません。
- 不具合が出たときに、教授からの素早い問題解決方法をメールで回答していただきたいです。
- たまに対面で行う授業があってもいいのかなとおもった。
- グループ活動を導入する。
- 質問を気軽にしやすくしてほしいです。

• Self-Check / Self Evaluation

Looking at the times students viewed the videos in Question 1, a significant number of students responded that they watched the classes during their free periods. In the previous survey, most students tended to watch the videos late at night, but this since the course was made up of 1st semester students with many courses likely caused students to watch during free periods. Even though many students took the course in their free periods, from Questions 3 and 5 we can see that students were also taking the course at home on their PCs. Few students watched their classes on-campus in the open classrooms.

About the number of times students viewed the recordings, the percentage of students who watched the recordings once, twice for some classes, and two or more times for all classes was about the same as before. From Question 4 we can see that most students paused or rewind the videos, so from Questions 2 and 4 we can see that students took advantage of the strengths of on-demand courses in their classes. From Question 6, almost all students responded that the strengths of on-demand classes were that they could take classes whenever and wherever they wanted, and that they could pause or rewind. Last time there was a concern that students were taking the classes late at night since they can

be accessed anytime, but that concern was resolved this time.

Questions 7 and 8 were about the bad or difficult aspects of on-demand courses. Many respondents said there were no issues in particular, but a number of respondents also said that it was difficult to maintain their motivation and manage their schedules. We will consider ways to help students maintain their motivation and manage their schedules, such as having instructors provide regular advice to students through Moodle. In addition, as in the previous course offering, many students mentioned the difficulty of communicating with their instructors, TAs, and other students. To help promote communication between these groups, we will consider the possibility of creating in-person classes and incorporating group activities while referring to the responses to Question 12. In addition, from AY 2024 we plan to propose a policy for assigning lecture TAs to the course so that one TA can be assigned to each class regardless of the number of students in the class. A TA will be assigned to each class to help respond to questions from students in a timely manner.

-End-