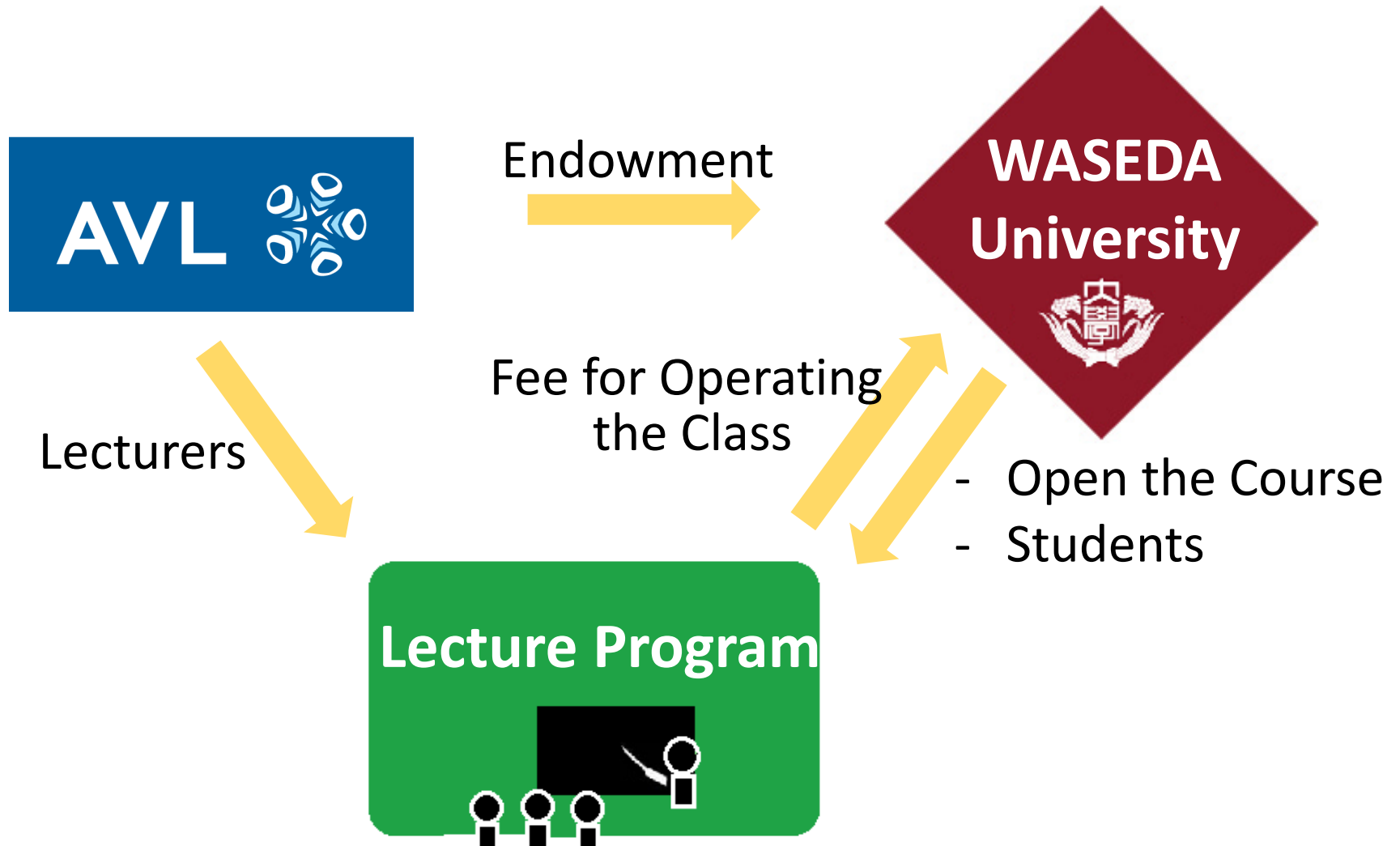


Collaboration Education Program with AVL

Jin KUSAKA, Professor, Ph.D

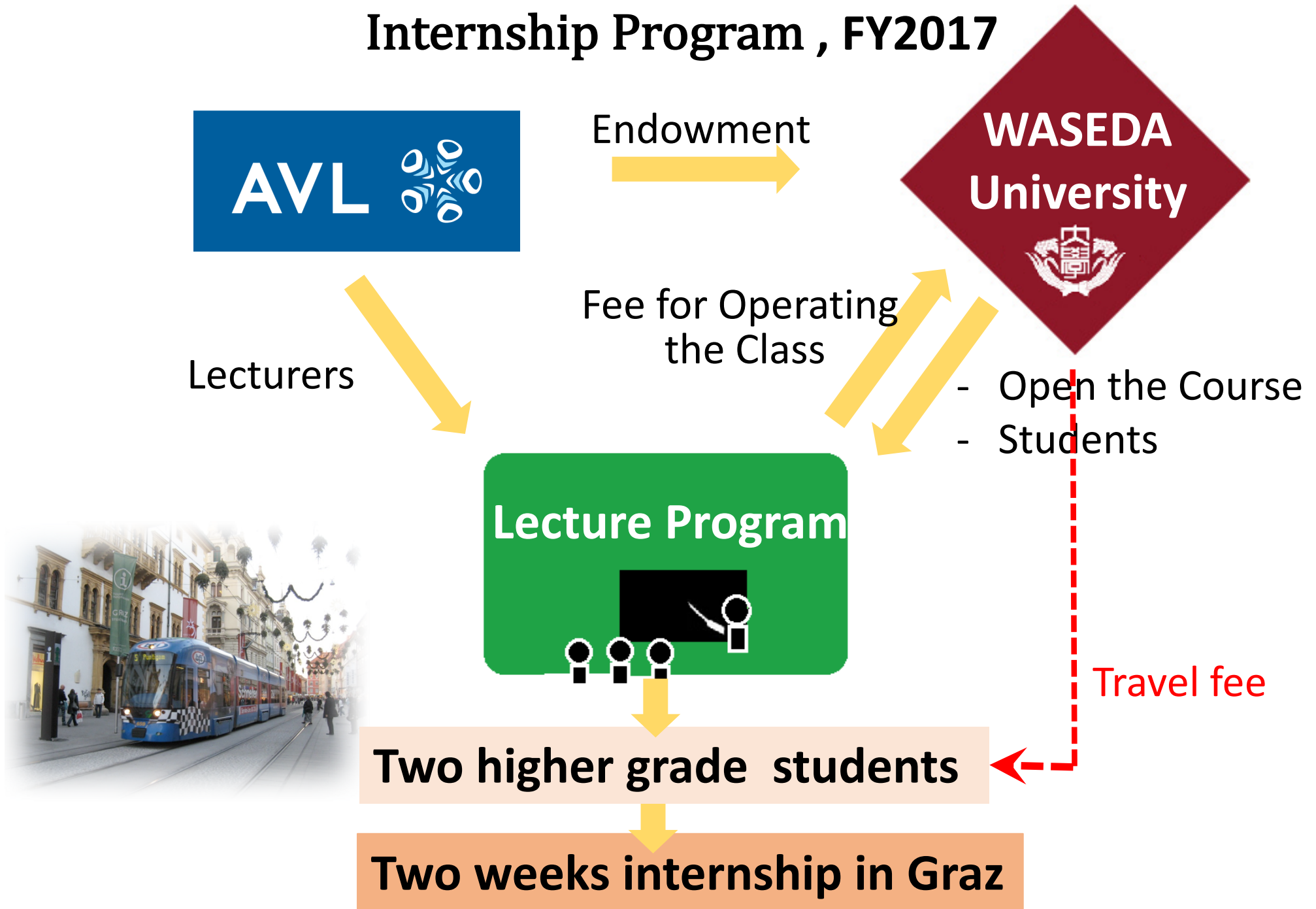
WASEDA UNIVERSITY

Waseda-AVL Endowed Course



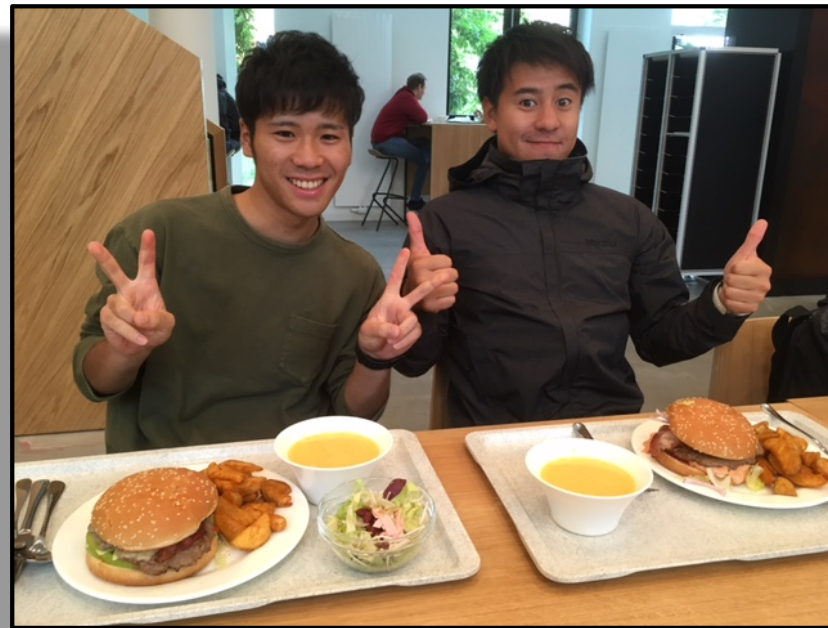
Waseda-AVL Endowed Course

Internship Program , FY2017



Internship in Graz , Austria

Two of deserving students were selected and dispatched to Graz in Austria as internship members.



Graz



Overall Schedule

Training Period : 11-23 Sep, 2017



9/10 Sun	Welcome BBQ
9/11 Mon	Orientation Session - AVL overview -
9/12 Tue- 13 Wed	Workshop
9/14 Thu	Wrap-up Meeting / AVL test bed tour
9/15 Fri	TUG tour
9/18 Mon	Overview Session Fuel Cell / Engineering and Development / Overview EAS / Overview Business Unit A
9/19 Tue	Workshop
9/20 Wed - 21 Thu	Visit Vienna
9/22 Fri	Sales Process Overview/Wrap-up Meeting

Students' Report

Workshop～Virtual Team Meeting～

Learned Importance of Team Communication

Importance of team

- Try to understand difference of language, culture, skill, and respect each other
- Keep communicate positively, and share my opinion
- Learn about business tools
(E-mail, telephone, face-to-face meeting etc.)

Overview of each department

- Calibration • ITS • EAS
- Fuel cell • TUG
- Sales Process
(Japanese market)



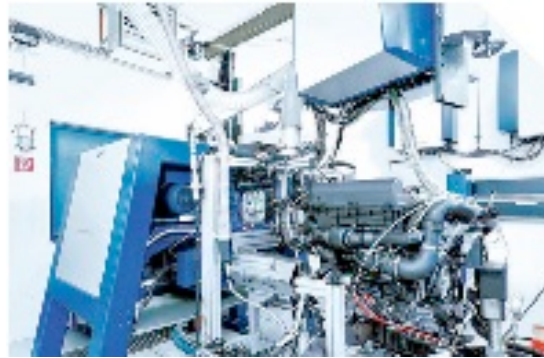
AVL has wonderful atmosphere, and is full of enthusiasm, flexibility, possibility

Students' Report

AVL facility tour

- Chassis dynamo
- Engine test bed
- Gas analyzer
- Fuel cell • TUG
- Cristal in piezo
- Lecture room
- Processing equipment
- Driving simulation system
- 3D printer
- Formula's machine
- Single cylinder testbed
- Transmission test-bed

Engine test bed



Chassis dynamo



Pressure sensor



Formula's machine



My impression

I am deeply grateful to all of AVL members. I could learn a lot of things. In addition to seeing AVL's facility, I was able to touch on strategies, ideas, atmosphere and so on. It is precious memory. This internship was also good opportunity to think about my future or future technology. My view of life changed significantly through this internship.

Students' Report

About AVL

- Leading company developing automobile power train etc.
- AVL has projects with each OEMs around the world with **neutral** position.



Automobile manufacture in JAPAN

- There is no company like AVL.
- Each OEM develops automobiles with a supplier

My Opinion

Since automobile development is becoming more and more complicated, Japanese manufacturers will face difficulties. I think Japanese manufacturers should abandon the spirit of **"MADE in JAPAN"** and get knowledge from all over the world.

Students' Report

Industry-academia collaboration

Graz

- It is implemented actively.
- AVL employees and students are **studying together** in the **university campus**.



Japan

- Of course it is also implemented in Japan, but the style is different.
- Mainly data sharing and meetings.
- Students and employees rarely study together .
- **I think that development will accelerate if Japan can have strong collaboration like Graz.**



Graz



Students' Report

Wien



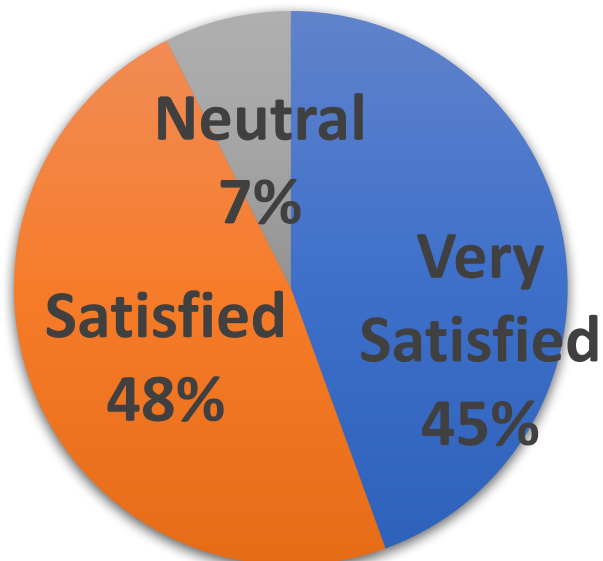
Lecture Schedule & Outline

on Friday at 14:45 - 16:15

	D a t e	L e c t u r e T i t l e
1	4/6	G e n e r a l L e c t u r e O v e r v i e w , A V L i n t r o d u c t i o n a n d i n t r o d u c t i o n i n t o e n g i n e d e v e l o p m e n t
2	4/13	A u t o m o t i v e e n g i n e d e v e l o p m e n t i n t h e f u t u r e
3	4/20	P o w e r t r a i n S y s t e m E l e c t r i f i c a t i o n
4	4/27	O v e r v i e w E n g i n e D e v e l o p m e n t P r o c e s s
5	5/11	F r o n t l o a d i n g p r o c e s s , v i r t u a l e n g i n e d e v e l o p m e n t
6	5/18	C o n c e p t d e s i g n e n g i n e
7	5/25	T h e r m o d y n a m i c L a y o u t E n g i n e
8	6/1	S y s t e m a t i c E n g i n e V a l i d a t i o n
9	6/8	F u n c t i o n a l e n g i n e t e s t i n g , p o w e r t r a i n t e s t i n g
10	6/15	T e s t i n g e n v i r o n m e n t a n d m e a s u r e m e n t d e v i c e s
11	6/22	P r o d u c t i o n / C o s t E n g i n e e r i n g i n e n g i n e d e v e l o p m e n t
12	6/29	B a s e E n g i n e S i m u l a t i o n
13	7/6	E n g i n e C a l i b r a t i o n , L e g i s l a t i o n
14	7/7	E x c u r s i o n t o A V L J a p a n T e c n i c a l C e n t e r
15	O p t i o n	c o m p r e h e n s i o n t e s t

WASEDA UNIVERSITY 2017/AVL Lecture Questionnaire (Total 27 students)

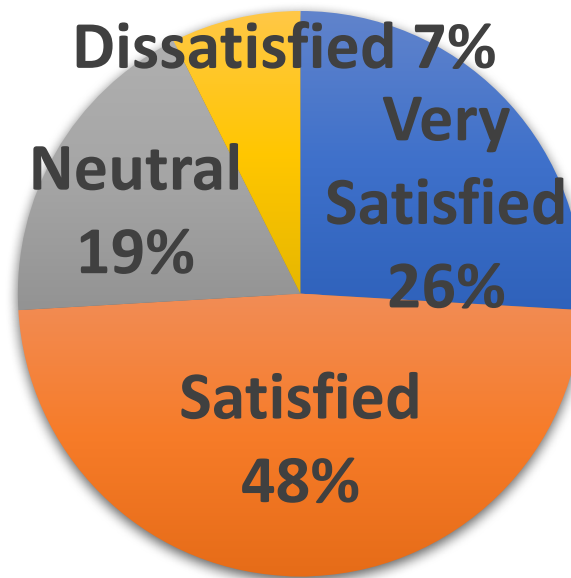
How was the series
of the lectures?



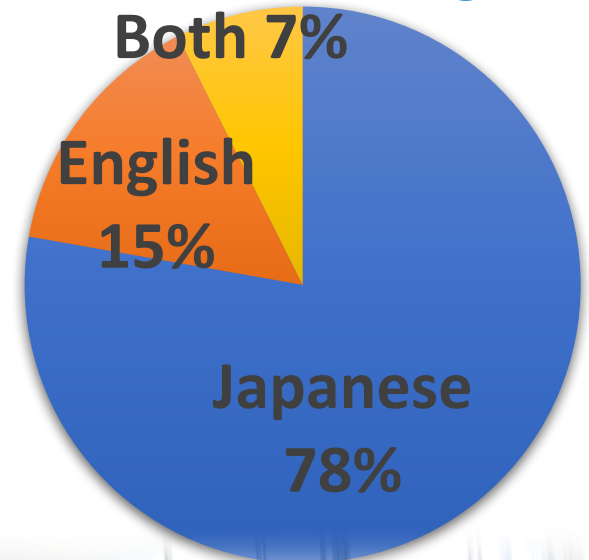
Dissatisfied 0%
Very Dissatisfied 0%



How was the hand
out of lecture?



Which lecture would you
prefer, in Japanese or
English?



WASEDA UNIVERSITY 2017/AVL Lecture Questionnaire

- Comments from Students -

It was learning and good opportunity to have lecture in English, however it took time for me to understand the content.



Materials in English are fine, but I think lecture in Japanese must be efficient for me to understand it deeply.

I hope more lecture at Waseda to be conducted by lecturer engaged in actual work, like this time.

It was really good to know about technology and world trend of automotive industry since I rarely have the opportunity in my lab life.



Textbooks for the Class

As of 2018, the class adopted the textbooks composed of Volume1 & 2, total 356 pages in 13 chapters.



Waseda-AVL Endowed Course - Our Achievement & Future Vision -



FY2018 marked the 3rd year since Waseda-AVL Collaboration Education Program was launched.

Last year, our endowed course started to dispatch two of deserving students to AVL Head Office in Austria.

We expect it to provide the students with a great opportunity to experience real work environment in Europe and to promote their global mindset.

Keep your eyes on our
further improvement!

**TO BE
CONTINUED...** ➡