JAPAN

NUSIP2026

Nagoya University Summer Intensive Program

Latest Advanced Technology & Trends in Automobile Engineering

+ Japanese Language

Images courtesy of Toyota Motor Co., Nissan Motor Co., LTD., Honda Motor Co., LTD., Mitsubishi Motors Co. & Suzuki Motor Co.

Earn college credits while immersed in another culture and engage your intellectual curiosity with the latest findings in automobile industries in Japan that focus and succeed on a level you never thought possible. Join **NUSIP** for approximately six weeks and experience the full range of Japanese cultural life. Course-related excursions will also provide you with an opportunity to discover amazing Japanese cultural scene that has enticed and entranced observers for generations.

Time schedule:

Application Period: January 14 to February 14, 2026 (JST)

Course Duration: June 10 to July 17, 2026

WEBSITE: https://int-office.engg.nagoya-u.ac.jp/nusip/

Contents

Outline

Program Contents

1. Seminars on Latest Advanced Technology and Trends in Automobile Engineering (400 level) (3 credits)
2. Elementary Japanese Language Course (100 level) (3 credits)
   (Students with previous Japanese language experience will be offered a more advanced language course)
3. Automobile industry factory and laboratory visits
4. Cultural excursions

Student Capacity

40 overseas students (including maximum of 5 students from the universities without academic exchange agreements with Nagoya University), and
10 Nagoya University students

Program Fee

—US$2,500 for students enrolled in the universities having concluded academic exchange agreements with Nagoya University.
—US$2,700 for students enrolled in the universities NOT having concluded academic exchange agreements with Nagoya University

Both fees exclude meal and air-ticket expenses. Accommodations in Nagoya, the Japanese language course, orientation, cultural excursions and social activities are included in the program fee.

Medium of Instruction

English

General Information

Overview

The 2026 summer program at Nagoya University will provide students with a rare opportunity to connect with and play a role in automobile technology. The program offers academic credits towards students' engineering degrees, and beyond the core curriculum, students may further supplement their practical know-how with enrichment as they are exposed to the authentic environment of the automobile factory and research center. A Japanese language course is also offered.

Study with an Advanced Curriculum that Gets Results

- Each lecture invites you to learn in a new context, in new ways, gaining perspectives that shape the way you engage with the automobile world.
- Each lecture is as demanding as it is rewarding, resulting from the commitment of Nagoya University faculty and, in most cases, collaboration with industrial researchers from Toyota, Honda, Nissan, Mitsubishi and so forth.
- Unlike many study opportunities abroad, the NUSIP program is led exclusively by faculty, ensuring the same quality education that students encounter on their own campus.

Accommodations

University dormitory (single room with shared facilities) and a hotel assigned by NUSIP for the night of June 9, 2026.

Meals

Lunch and dinner are available at the campus cafeteria at a reasonable price.

Visa

Those who need a visa to enter Japan are responsible for getting a temporary visitor (short-stay) visa.

Health Insurance

NUSIP requires health insurance coverage for all overseas participants. Japan's National Health Insurance system is available to foreigners with long-term visas for Japan only. Therefore, overseas participants must purchase overseas health insurance prior to arrival in Japan. They are required to show proof of health insurance coverage no later than the first day of summer program.

Learn from Staff Committed to Excellence

Program Director:

Professor Hideo Kishida
Vice-Dean, Graduate School of Engineering

Chief Coordinator:

Designated Professor Yasuhiko Sakai
Global Multi-Campus Institute, Global Engagement Center

Instructors (Omnibus):

Researchers or engineers from automobile companies and professors at Nagoya University

Course Overview (Subject to change)

1. Latest Advanced Technology and Trends in Automobile Engineering (3 credits)

Class hours: Three 45-minute classes a day
(13:30-14:15, 14:30-15:15, 15:30-16:15)
Three to four days a week. Days are not fixed.

1. *The Car Industry, Market Trend, Circumstance and Its Future*

Global market trend by region / Industry circumstance / Mobility service / Zero emission vehicles / Future trend of EV / EV & PHEV, *Lecturers: Mr. Kazuaki Iwamoto (Mitsubishi Motors Co.), Mr. Hiromasa Date (ibid.), Prof. Yasuhiko Sakai (Nagoya Univ.)*

2. *Overview of Automotive Development Process*

Product planning / Development and testing / Sales and marketing / Business evolution / Mobility services / Ecosystem, *Lecturers: Mr. Reuben Seah (Nissan Motor Co., LTD.), Prof. Koji Mizuno (Nagoya Univ.)*

3. *Observation and Evaluation of Driver's Behavior*

Driving behavior signal processing / Data centric approach using BIGDATA) / Research topics (Driver identification,

Behavior prediction, Driver state prediction), *Lecturers: Prof. Kazuya Takeda (Nagoya Univ.), Prof. Alexander Carballo (Gifu Univ.), Dr. Kento Ohtani (Nagoya Univ.)*

4. *Car Materials and Processing*

Metal forming technology in the automotive industry / Parts development / Manufacturing method / Use of simple and slim equipment / Plastic deformation / High strength steel / Tailored blanks / Aluminum alloy / CFRP, *Lecturers: Dr. Shuji Kano (Toyota Motor Co.), Prof. Yoshinori Yoshida (Gifu Univ.), Prof. Yasuhiko Sakai (Nagoya Univ.)*

5. *Movement and Control of a Car*

Introduction to automatic control and control engineering / Basic dynamics of cars / Planning for automated driving / Communication for vehicle control / Cooperative control of car, *Lecturers: Dr. Satoshi Makido (Toyota Central R&D Labs., Inc.), Prof. Toru Asai (Chubu Univ.), Prof. Yasuhiko Sakai (Nagoya Univ.)*

6. *Safety Engineering for Preventing Accidents*

Driving behavior analysis and assistance system design / Steering assistance by risk potential field / Pedestrian behavior modeling / Model predictive control for interactive drive / Intelligent personal mobility / Collision mitigation brake system / Autonomous emergency steering system / Night vision blind spot monitor / Driver status monitor, *Lecturers: Prof. Akira Ito (Aichi Institute of Technology, former researcher at DENSO Co.), Prof. Hiroyuki Okuda (Nagoya Univ.), Prof. Tatsuya Suzuki (ibid..)*

7. *Crash Safety*

Impact biomechanics / Crashworthiness / Traffic injuries / Safety for pregnant women / Vehicle to pedestrian collision, *Lecturers: Prof. Masahito Hitosugi (Shiga University of Medical Science), Dr. Fusako Sato (Japan Automobile Research Institute), Prof. Koji Mizuno (Nagoya Univ.)*

8. *Automotive Embedded Computing Systems*

Automotive E / E architecture / Automotive software platform / Classification of automotive embedded systems / Current status and problems, *Lecturers: Mr. Kazuhiro Kajio (Toyota Motor Co.), Prof. Hiroaki Takada (Nagoya Univ.)*

9. *Wireless Technologies in ITS*

Brief history of mobile wireless technologies / Overview of wireless technologies for vehicle / Wireless technologies for autonomous driving / Sensors for safe driving (Rader, LIDAR, Camera), *Lecturer: Prof. Takaya Yamazato (Nagoya Univ.)*

10. ***Application of CAE to Vehicle Development***

CAE (Computer-aided engineering) / FEM / BEM / Application to topology optimization / CAE application to vehicle (Noise and vibration, Crash safety, Strength and reliability, Fluid dynamics, Ride comfort), *Lecturers: Dr. Shinichi Arimoto (Toyota Motor Co.), Prof. Dai Okumura (Nagoya Univ.)*

11. ***Advanced Power Train Technology for Electric Vehicle in EU, US, China and Japan -Teardown report of each EV-***

Electric vehicle, Hybrid electric vehicle, Fuel-cell electric vehicle, e-Axle, Power electronics, Inverter, DC-DC converter, On-board charger, *Lecturers: Prof. Masayoshi Yamamoto (Nagoya Univ.), Dr. Thilak Senanayake (Nagoya Univ., former researcher at DENSO Co. and Toyota Central R&D Labs., Inc.)*

12. ***Intelligent Transport System in Japan and Auto-nomous Driving***

Nine systems developed / Current systems topics: CASE / National projects / Vehicle centric to human centric / Autonomous driving system / Vision beyond Autonomous level 3 / Social implementation of AD at Nagoya University, *Lecturers: Visiting Prof. Nobuyuki Ozaki (Nagoya Univ.), Prof. Yasuhiro Akagi (ibid.)*

13. ***Fundamentals of Traffic Flow Characteristics***

Transportation and traffic engineering / Microscopic and macroscopic analysis / Traffic flow analysis / Traffic congestion and bottleneck, *Lecturer: Prof. Hideki Nakamura (Nagoya Univ.)*

14. ***Cars and Roads in Urban Transportation Context***

Transportation systems in cities / Environmentally sustainable transport-EST / Mixed traffic flow with autonomous and human-driven vehicles / Car-sharing / Charging electric vehicle and fueling hydrogen fuel cell vehicle, *Lecturer: Prof. Toshiyuki Yamamoto (Nagoya Univ.)*

15. ***Automobiles in Aging Society***

Aging society / Elderly driver / Driver assessment / Cognitive / Visual / Physical function, *Lecturer: Prof. Hirofumi Aoki (Nagoya Univ.)*

Evaluation:

Attendance & participation: 20%
Written assignments for seminars (15 assignments): 20%
Presentation of group project work: 30%
Report of group project work: 30%

2. *Japanese (3 credits)*

Class hours: Approximately two hours per day for 6 weeks (total 45 hours)

Language has a great importance on our daily lives, so the participants learn Japanese in this program. By learning a foreign language, they can understand ideas and thoughts that may be different from their own cultures. Since some of the participants may have previously learned Japanese, classes of different levels are also offered in the program. The beginners are able to hold a simple conversation in Japanese by the end of the program.

3. *Automobile Industry Factory and Laboratory Visits*

- Toyota Motors,
- Toyota Boshoku,
- Suzuki Museum,
- Toyota Commemorative Museum of Industry and Technology,
- National Traffic Safety and Environment Laboratory.

(places of visit subject to change)

4. *Cultural Excursions*

Kyoto, Nara, Iga and Tokyo

Eligibility

· Applicants MUST be enrolled in universities having concluded academic exchange agreements with Nagoya University at the inter-university level or with the Graduate School of Engineering at the inter-school level. However, maximum of 5 students from the universities NOT having concluded academic exchange agreements with Nagoya University may join this program.

· Applicants MUST be of senior undergraduate or graduate status during the NUSIP period (including junior undergraduates, who are completing their junior program).

· Applicants who are non-native speakers of English must possess a TOEFL score of iBT=79, an IELTS overall band score of 5.5, or the equivalent, and should submit a copy of the official score record to the application. However, those studying full time at a university where the medium of instruction is the English language are exempted from this requirement.

Application Procedures

All applicants are requested to submit their applications through the NUSIP online application system during the application period shown below.
Application Period: January 14, 2026 - February 14, 2026 (JST).
Applicants will be asked to upload the following documentation in a PDF format (photograph in a JPEG format); hence, preparation of the relevant materials in advance of the closing dates stipulated below is important.
For more imformation:
https://int-office.engg.nagoya-u.ac.jp/nusip/application-procedure/

- ☐ Statement of purpose (written in English with minimum 400 words)
- ☐ Official transcript of academic records in English
- ☐ Health certificate: Students are requested to use the designated NUSIP health certificate form available on the application site.
- ☐ (Non-native English Speaker) Supporting documents of English Proficiency (i.e., TOEFL, IELTS)
- ☐ Photograph with solid-color background, showing a close-up of the applicant's full head and upper shoulders. Sunglasses / tinted glasses, or headwear should not be worn, unless this is for religious or medical reasons.
- ☐ A copy of the passport page which shows the applicant's name, date of birth and nationality, where available.
- ☐ Curriculum Vitae (CV)
- ☐ Declaration of Applicable specific categories (the designated form available on the application site)

Application Deadline

Online application deadline is **February 14, 2026 (JST)**

Enquiry

For any enquiries, please send an e-mail to **nusip@engg.nagoya-u.ac.jp.**

Notification of Results

The results of document screening, as conducted by Nagoya University, will be made available to applicants in **mid-March 2026.**