

JAPAN

2010 Summer Intensive Program at Nagoya University (NUSIP)

Latest Advanced Technology & Tasks in Automobile Engineering

+ Japanese Language



Image courtesy of motor corporations

“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 six weeks and experience the full range of Japanese cultural life. Course-related excursions will provide you with an opportunity to discover Japanese amazing cultural scene that has enticed and entranced observers for generations”.

Time schedule:

Application Deadline: February 28, 2010

Course Duration: June 15 to July 21, 2010

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Courses offered

1. Seminars on Latest Advanced Technology and Tasks 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

Approximately 35 students (25 overseas students and 10 Nagoya University students)

Program Fee

\$1,800 US, excluding meal and air-ticket expenses. Accommodation in Nagoya, the Japanese language course, orientation, public transportation pass, cultural excursion and social activities are included in the program fee.

(Nagoya University students will have the fee for the Automobile Engineering course waived, but will be charged for cultural excursions and social activities.)

Language

English

General Information

Overview

The 2010 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 some 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.

Accommodation

Monthly-rental apartment especially appointed for you (rooms in each apartment shared by two or three students).

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 (tourist) visa.

Health Insurance

Participants should take out an appropriate health or travel insurance covers the duration of their stay in Japan before that program commences.

Learn from the Staff Committed to Excellence

Program Director:

Professor Eiichi TANAKA,
Vice-Dean, Graduate School of Engineering

Chief Coordinator:

Professor Yukio ISHIDA,
Dept. of Mechanical Science and Engineering

Instructors (Omnibus):

Researchers or engineers from automobile companies and professors at Nagoya University

Course Overview

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

Class hours: Three 45-minute classes a day, three days a week

(13:30-14:15, 14:30-15:15, 15:30-16:15 on Mondays, Wednesdays and Fridays)

1 Current Trends in Automobile Engineering and the Car Industry and Market

The car industry world-wide / Important issues relevant to the car industry and market / Law and legal coverage / Marketing know-how factors / Future trends of the automobile industry and market

[Lecturers] Mr. Hiroaki Yoshimatsu (Mitsubishi Motor Corp.), Prof. Yukio Ishida (Nagoya Univ.)

2 Overview of Automotive Development Process

New car model / Development process / Vehicle packaging / Performance design

[Lecturers] Mr. Tomosabro Okabe (Nissan Motor co., Ltd.), Prof. Koji Mizuno (Nagoya Univ.)

3 *Observation and Evaluation of Drivers' Behavior Perspective*

Measurements of drivers' behavior / Driving models / Evaluations of risk factors / Differences in characteristics of drivers

[Lecturer] Mr. Masahito Oikawa (Tokyo Marine & Nichido Risk Consulting), Prof. Kazuya Takeda (Nagoya Univ.)

4 *Car Materials and Processing*

Lightweight materials for automotive applications / Innovation in metal forming / Computer aided engineering for metal forming.

[Lecturers] Dr. Shin-ichiro Fujikawa (Nissan Motor Corp.), Prof. Takashi Ishikawa (Nagoya Univ.)

5 *Movements and Control of a Car*

Vehicle dynamics (modeling, robust control) / Driver's expectation and motion sensitivity (maneuverability and stability, ride comfort) / Vehicle dynamics integrated management (steering control, braking / traction control)

[Lecturers] Mr. Yoshikazu Hattori (Toyota Central R&D Labs., Inc.), Mr. Daisuke Yamada (ibid.), Dr. Masatoshi Hada (ibid.), Prof. Kenji Fujimoto (Nagoya Univ.)

6 *Safety Engineering for the Prevention of Accidents*

Driving-assist system / Modeling of driving behavior / Prediction of driving behavior / Recognition of environment / Innovative safety concept

[Lecturers] Mr. Yousuke Akatsu (Nissan Motor Co., Ltd.), Prof. Tatsuya Suzuki (Nagoya Univ.)

7 *Crash Safety*

Occupant protection / Crash worthiness / Restraint system / Impact biomechanics

[Lecturers] Mr. Koichi Kamiji (Honda R & D Co., Ltd.), Assoc. Prof. Masahito Hitosugi (Dokkyo Medical Univ.), Assoc. Prof. Koji Mizuno (Nagoya Univ.)

8 *Automotive Embedded Computing Systems*

Applications of automotive embedded systems / Automotive embedded operating systems / In-vehicle network / Image processing for automotive systems

[Lecturer] Prof. Hiroaki Takada (Nagoya Univ.)

9 *Communication Technologies in ITS*

Inter-Vehicle and Road-to-Vehicle Communications / Navigation Systems / Traffic Information Systems

[Lecturers] Dr. Hiroyuki Kumazawa (Mitsubishi Electric Corp.), Prof. Masaaki Katayama (Nagoya Univ.)

10 CAE Activity in the Vehicle Development

Computer-aided engineering / Crash and safety / Strength and reliability / Noise and vibration / Vehicle dynamics / Computational fluid dynamics
[Lecturers] Mr. Shigeki Hayashi (Toyota Motor Corp.), Prof. Toshiro Matsumoto (Nagoya Univ.)

11 Energy Saving Technology for Automobiles

Hybrid electric vehicles / Electric vehicles / Energy regeneration / Mobility for the next generation / Motors / Automotive power supply & batteries
[Lecturers] Mr. Tatsuo Teratani (Toyota Motor Corp.), Prof. Shigeru Okuma (Nagoya Univ.)

12 Fuels and Automobile Catalysts for Environmental Friendly Cars

Exhaust purification / Automobile catalysts / Fuels and Oil Refinery / Biomass utilization
[Lecturer] Prof. Atsushi Satsuma (Nagoya Univ.)

13 Traffic Flow Characteristics

Microscopic traffic flow characteristics / Mechanism of traffic congestion / Shock wave analysis
[Lecturer] Prof. Hideki Nakamura (Nagoya Univ.)

14 New Manufacturing System in Car Industry

Denso manufacturing system
[Lecturer] Mr. Hiroshi Furuhashi (Denso Corp.), Mr. Kunihiro Kodama (Denso Corp.), Assist. Prof. Rei Hino (Nagoya Univ.)

15 Presentation of Individual Research Projects

At the end of the program each overseas student is to give a presentation jointly with an NU student based on a project of interest.

Evaluation:

Attendance & participation: 20%
Written reports for seminars (14 reports): 20%
Presentation of group project work: 30%
Report of group project work: 30%

2. Japanese (3 credits)

2.1 Elementary Japanese

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

Designed for students who have little or no knowledge of Japanese, this level aims to acquire the most essential language patterns for everyday life, and be able to express intentions in uncomplicated

adult-level Japanese.

2.2 Intermediate / Advanced Japanese

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

One instructor will flexibly teach students with intermediate and advanced level Japanese.

3. Automobile industry factory and laboratory visits

4. Cultural excursions

Including Kyoto (one day trip), Inuyama (Meiji-mura Museum) and Nagoya city.

Eligibility

- *Applicants MUST be enrolled in universities having concluded academic exchange agreements with Nagoya University at the inter-university or with the Graduate School of Engineering at the inter-school level.*
- *Applicants MUST be of senior undergraduate or graduate status during the NUSIP period (including junior undergraduates who are completing their junior program).*
- *Applicants MUST enclose a resume and brief statement of purpose with the program application materials. Application may be downloaded.*
- *Applicants who are non-native speakers of English should possess a TOEFL score of 550 <CBT =213; iBT=79>, TOEIC score of 730, an IELTS overall band score of 5.5, or the equivalent, and should attach a copy of the official score record to the application.*

Application Procedures

Students applying to participate in the Nagoya University Summer Intensive Program (NUSIP) must submit the following application forms to Nagoya University by the closing date stipulated below:

- NUSIP Application Form
- Statement of Purpose
- Health Certificate
- (Non-native English Speaker) Supporting Documents of English Proficiency (i.e., TOEFL, TOEIC, IELTS or the equivalent)
- Three identical photographs (3.0 cm x 4.0 cm), signed on the reverse side, one of which should be attached to the 'NUSIP Application Form'.
- A copy of the passport page which shows your name, date of birth and nationality. (If you do not have your passport at the time of application, please send the copy by a facsimile or by an email to our office when you have it.)

Application Deadline

Completed application forms must reach the Student Affairs Office, School of Engineering by the following date:

Sunday, 28 February 2010

Inquiries & Applications

International Office of your University

Contact Address

Students should send their applications to:

Student Affairs Office
School of Engineering
Nagoya University
Furo-cho, Chikusa-ku, Nagoya, 464-8603 Japan

Tel: 81-52-789-3603/3563

Fax: 81-52-789-3979

E-mail: nusip@engg.nagoya-u.ac.jp

Website: <http://www.engg.nagoya-u.ac.jp/en/nusip/>

Notification of Results

The results of document screening, as conducted by Nagoya University, will be made available to students by **End of March 2010**.