Industry-Education Collaboration with Tohoku University Internship Program
31st May
Internship Program will be implemented this year

**Concept**

The objective of the internship program is to provide an opportunity for young students to collect first workplace experience by observing business activities as well as social behavior in a professional corporate environment.

**Details**

- **Internship Details:**
  - All year-round internship
  - Long-Term Internships
- **Duration:**
  - From 2 weeks
- **Other Learning Experience during internship:**
  - Factory Tour
  - Fireside Chat (Executive Talk)
- **Departments**
  - R&D, Production Office, Customer Services

**Policy Program**

- **Support to Interns:**

<table>
<thead>
<tr>
<th>Duration</th>
<th>Allowance</th>
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<tbody>
<tr>
<td>2 weeks</td>
<td>JPY 65,000</td>
</tr>
<tr>
<td>1 month</td>
<td>JPY 130,000</td>
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</tbody>
</table>

**Assumptions (2-week business model):**
Transportation: 25,000 (roundtrip)
Accommodation: 40,000 - 65,000 / month

**Sample Sharehouse:**
www.ekichika.co.jp
www.oakhouse.jp

We recommend students to enjoy a 1 month internship program.
34 internship opportunities offering the chance to work on actual projects

<table>
<thead>
<tr>
<th>Department</th>
<th>Project</th>
<th>Number of Interns</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 R&amp;D</td>
<td>Internship in Diesel Engine Development</td>
<td>4</td>
</tr>
<tr>
<td>2 R&amp;D</td>
<td>Internship in TF Japan Project</td>
<td>2</td>
</tr>
<tr>
<td>3 R&amp;D</td>
<td>Steering, Front Axle Team Electric Power Steering Development</td>
<td>1</td>
</tr>
<tr>
<td>4 R&amp;D</td>
<td>Rear Axle, Final Drive System Team eAxle Development</td>
<td>1</td>
</tr>
<tr>
<td>5 R&amp;D</td>
<td>Suspension Team Front/ Rear Suspension Development</td>
<td>1</td>
</tr>
<tr>
<td>6 R&amp;D</td>
<td>Air Brake Team: Air Brake Development for Heavy Duty Vehicles</td>
<td>1</td>
</tr>
<tr>
<td>7 R&amp;D</td>
<td>Internship in HV battery hardware R&amp;D</td>
<td>1</td>
</tr>
<tr>
<td>8 R&amp;D</td>
<td>Internship in R&amp;D Competitiveness Improvement</td>
<td>2</td>
</tr>
<tr>
<td>9 R&amp;D</td>
<td>Internship in TP/PAT to support gearbox and PTO development for e CANTER Project</td>
<td>1</td>
</tr>
<tr>
<td>10 R&amp;D</td>
<td>Internship in Testing – Data Analysis Automation</td>
<td>1</td>
</tr>
<tr>
<td>11 R&amp;D</td>
<td>Internship in TP/ATC 4P10 Euro VI stepE Project</td>
<td>1</td>
</tr>
<tr>
<td>12 R&amp;D</td>
<td>Internship in TP/ATC 4P10 engine testing</td>
<td>1</td>
</tr>
<tr>
<td>13 R&amp;D</td>
<td>Internship in TP/ATC CFD 1D cooling Project</td>
<td>1</td>
</tr>
<tr>
<td>14 TA/O</td>
<td>Internship in Wiring Piping Production Preparation</td>
<td>1</td>
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<tr>
<td>15 TA/O</td>
<td>Internship in Manufacturing Engineering Trucks : Introduce Deep learning in robotics as</td>
<td>1</td>
</tr>
<tr>
<td>16 TA/O</td>
<td>Internship in Manufacturing Engineering Trucks : Introduce work support system with n</td>
<td>1</td>
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<tr>
<td>17 TA/O</td>
<td>Internship in Manufacturing Engineering Trucks : Efficient and effective introduction of</td>
<td>1</td>
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<tr>
<td>18 TA/O</td>
<td>Internship in TOS * Kaizen project in direct area (* Truck Operating System)</td>
<td>1</td>
</tr>
<tr>
<td>19 TA/O</td>
<td>Internship in Manufacturing Engineering Powertrain.</td>
<td>1</td>
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<tr>
<td>20 TA/O</td>
<td>Internship in Logistics Digitalization Project</td>
<td>1</td>
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<tr>
<td>21 TA/QM</td>
<td>Internship in QM New Projects team</td>
<td>1</td>
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<tr>
<td>22 TA/QM</td>
<td>Internship in Product reliability and warranty FUSO</td>
<td>1</td>
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<tr>
<td>23 TA/QM</td>
<td>Internship in Quality Management in the area of - Connected truck data analytics</td>
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<tr>
<td>24 TA/QM</td>
<td>Internship for Product Reliability and Warranty Fuso in DTA QM ( TA/ QMR , TM and FU )</td>
<td>1</td>
</tr>
<tr>
<td>25 TA/QM</td>
<td>Internship in PST (Problem Solving Team) Activity</td>
<td>1</td>
</tr>
<tr>
<td>26 TA/QM</td>
<td>Application for 1 intern on Tohoku University Project</td>
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<tr>
<td>27 TA/QM</td>
<td>Internship in Kaizen project for management of COP inspection record</td>
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<tr>
<td>28 TA/QM</td>
<td>Internship in material laboratory of quality department</td>
<td>1</td>
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<tr>
<td>29 TA/QM</td>
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<tr>
<td>TOTAL</td>
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<td>34</td>
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</table>
1 Title of the internship

Internship in Diesel Engine Development

2 Required skill

• Study: Mechanical Engineering knowledge
• Language: Japanese and/or English

3 Main task

• Task1  Design and Project Management ( @Kawasaki )
• Task 2  Simulation and Engine dynamo Testing ( @Tochigi Sakura city)
1 Title of the internship

<e.g.> Internship in TF Japan Project

2 Required skill

• Study: Basic automotive technology. Mechanical engineering or Electronic engineering knowledge.
• Language: Japanese is main language. (English capability is not required)
• Other: Excel and Power point skill is preferred.

3 Main task

• Vehicle specification calculation. (Weight, Performance etc.)
• Management of funding and timeline
• Strategy making for next generation vehicle.
# Title of the internship

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<thead>
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<th>Steering, Front Axle Team</th>
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<td>Electric Power Steering Development</td>
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</table>

## Required skill

- 3D Modelling by Siemens NX, CATIA or similar program
- 2D Drawing dimensioning.
- Knowledge of Driving dynamics/ Vehicle dynamics, knowledge of main steering components & Front Axle
- Excel and Power Point
  - Study: Mechanical Systems Engineering, Mechanical systems
  - Language: Japanese native

## Main task

- Design support and data acquisition for electric power steering design
- 3D digital mockup packaging study
- Part maturity tracking; Design status, prototyping and testing
Title of the internship

Rear Axle, Final Drive System Team
eAxle Development

Required skill

• 3D Modelling by Siemens NX, CATIA or similar program
• 2D Drawing dimensioning.
• Knowledge of Driving dynamics/ Vehicle dynamics, knowledge of Rear Axle and Final Drive
• Excel and Power Point
  • Study: Mechanical Systems Engineering, Mechanical systems
  • Language: Japanese native

Main task

• Design support and data acquisition for eAxle design
• 3D digital mockup packaging study
• Part maturity tracking; Design status, prototyping and testing
1 Title of the internship
Suspension Team
Front/ Rear Suspension Development

2 Required skill
- 3D Modelling by Siemens NX, CATIA or similar program
- 2D Drawing dimensioning.
- Knowledge of Driving dynamics/ Vehicle dynamics, knowledge of main components of Vehicle suspension
- Excel and Power Point
  - Study: Mechanical Systems Engineering, Mechanical systems
  - Language: Japanese native

3 Main task
- Design support and data acquisition for suspension design for various Vehicles from LDT to HDT
- 3D digital mockup packaging study
- Part maturity tracking; Design status, prototyping and testing
Title of the internship

Air Brake Team: Air Brake Development for Heavy Duty Vehicles

Required skill

- 3D Modelling by Siemens NX, CATIA or similar program
- 2D Drawing dimensioning.
- Knowledge of Brake system and braking force calculation, knowledge of main components of Air brake system
- Excel and Power Point
  - Study: Mechanical Systems Engineering, Mechanical systems
  - Language: Japanese native

Main task

- Design support and data acquisition for air brake design for various Vehicles (Heavy duty Truck and Bus)
- 3D digital mockup packaging study
- Part maturity tracking; Design status, prototyping and testing
Title of the internship

Internship in HV battery hardware R&D

Required skill

• Study: Mechanical/electrical/materials engineering or related
• Language: English, Japanese
• Other:
  • Ability to work and communicate effectively in an international, cross-functional environment
  • Ability to solve problems and tasks independently
  • Interest in NEV and battery development
  • Experience with MS office tools

Main task

• Work closely with electrical vehicle project members and assist in project management and documentation
• Support in the analysis and full-vehicle integration of 3D battery models
• Support the preparation of component/vehicle test plans using Excel
• Participate in supplier meetings and support technical alignments
• Apply and follow up on processes for parts ordering and releases
• Keep track of latest trends in battery system development
# Job Description - 8/14

**Department**

<table>
<thead>
<tr>
<th>TP/AVL (Adit)</th>
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**Required No. intern trainee**

| 1~2 |

## Title of the internship

| Internship in R&D Competitiveness Improvement |

## Required skill

- Study: Mechanical Engineering / Mechanical Systems / Management Science & Technology
- Language: Japanese and English (Both in Good Speaking Level)
- Other:
  - Automotive and Vehicle Components Knowledge
  - Data Automation and Programming Skills
  - MS Excel, Powerpoint

## Main task

- To invent Entire Vehicle Research and Development System to support projects pre-study and decision
- To improve R&D competitiveness by reducing documentation time and improving R&D information/data management.
Title of the internship

Internship in TP/PAT to support gearbox and PTO development for e CANTER Project

Required skill

- Study: Mechanical Engineering knowledge
- Language: Japanese native, English basic
- Other: general pc operation skill, e.g. Microsoft word, excel, powerpoint

Main task

- To support design validation by engineering analysis
- To support documentation of technical report

What a trainee can take out through the main tasks are

a) Get first insides to R&D Work of FUSO (TP/PAT)
b) See real project work of engineers
c) Participate in project meetings/prepare or support AGENDA or meeting minutes
d) Understand function of gearbox and PTO for eCanter
e) Understand how to prepare and support technical reports/presentations
1 Title of the internship

Internship in Testing – Data Analysis Automation

2 Required skill

- Study: Material Mechanics, Mechanical dynamics, Electrical engineering
- Language: Native Japanese
- Other:

3 Main task

- Learning data analysis processes for durability testing and/or EV testing
- Implement their automation
Title of the internship

Internship in TP/ATC 4P10 Euro VI stepE Project

Required skill

- Study: “General Engineering” especially engine combustion, and after treatment system chemical reaction
- Language: Japanese native, English : communication level
- Other:
  - Better to have
    - material mechanics, fluid mechanics knowledge
    - Engine emission knowledge
    - 3D drawing skill

Main task

- TF 4P10 stepE project, spec definition for future engine and ATS
- Meeting organization support
- 3D drawing support
Job Description – 13/14

1 Title of the internship
Internship in TP/ATC 4P10 engine testing

2 Required skill
- Study: “General Engineering” especially engine combustion, and after treatment system chemical reaction
- Language: Japanese native, English : communication level
- Other:
  - Better to have
    - material mechanics, fluid mechanics, electric knowledge
    - Engine emission knowledge
    - Simulation knowledge

3 Main task
- Engine bench testing optimization
- Vehicle testing support
- Hardware in loop simulation support
- Meeting organization support
Title of the internship

Internship in TP/ATC CFD 1D cooling Project

Required skill

- Study: Fluid dynamics, heat transfer and computational fluid dynamics (CFD)
- Language: Japanese native, English: communication level
- Other:
  - Better to have
    - Knowledge of simulation tools Star-CCM+, GT-Suite
    - Knowledge of heat exchanger model

Main task

- Creation of 1D underhood cooling model
- Data management of cooling modules (intercooler, radiator, cooling fan)
- 3D Underhood airflow simulation support
Production Department
1. Title of the internship

Internship in Wiring Piping Production Preparation

2. Required skill

- Study: General Engineering knowledge
- Language: Japanese Native or Basic
- Other: Microsoft office

3. Main task

- Our group task -
  To prevent the productivity issues about wiring and piping circulation.
  To decrease assembly workload by proposing new design from production point of view.

- Task for internship -
  To create 3D drawing for some components.
  To assemble Muck up (sample trucks) on garage area by self.
Job Description – 2/7

Title of the internship

Internship in Manufacturing Engineering Trucks : Introduce Deep learning in robotics automation

Required skill

- Study: Robotics / Mechanical systems Engineering
- Language: Japanese native, English Conversational
- Other: Brief experience in robotics automation, robot programming
  Experience of team activities, achieve target by communicating and cooperate with team members

Main task

- Support to introduce statistics feedback loop into prioritize parts picking pattern in existing picking robot system
- Support to research and develop to setup automated parts picking pattern creation, automated labeling systems
1 Title of the internship

Internship in Manufacturing Engineering Trucks: Introduce work support system with motion capturing technologies

2 Required skill

- Study: Robotics / Mechanical systems Engineering
- Language: Japanese native, English Conversational
- Other: Brief experience in robotics automation, Visual recognition, Motion capturing
  Experience of team activities, achieve target by communicating and cooperate with team members

3 Main task

- Research and comparison system (camera types, software)
- Research actual cases in Market
- Proposal use case in FUSO production (e.g. integrate work installation and POKA-yoke, safety work)
1 Title of the internship

Internship in Manufacturing Engineering Trucks: Efficient and effective introduction of EV manufacturing

2 Required skill

- Study: Mechanical systems Engineering
- Language: Japanese native, English Conversational
- Other: Design object models in 2D / 3D cad.
  Experience of team activities, achieve target by communicating and cooperate with team members

3 Main task

- Support to plan assembly process and facilities for main components of EV trucks
- Support to create prototype of process facility and coordinate test and report
Title of the internship

Internship in TOS* Kaizen project in direct area (* Truck Operating System)

Required skill

- Study: General engineering knowledge
- Language: Japanese (native or business level) and English (preferred, not mandatory)
- Other skills: MS office (Excel, Word, Powerpoint) intermediate
- Preferred characteristics: Ready to work on shop floor, Communicative, Openness, Curiosity, Positive to use English
- Duration: 4 weeks or more in July / August (before Obon holiday)

Main task

- Through participation of TOS Kaizen project in direct (production) area,
  - Learn basics of TOS / lean management
  - Understand production process in the project area
  - Visualize production process and investigate weak points
  - Analyze work contents in terms of value added / non-value added / waste
  - Prepare presentations for report
Title of the internship

Internship in Manufacturing Engineering Powertrain.

Required skill

- Study: Mechanical Engineering
- Language: Japanese
- Other:

Main task

- Project support for Factory of Future
- Project support for Site strategy

Department

TG/MPJ (ME Powertrain)

Required No. intern trainee

1
1 Title of the internship

Internship in Logistics Digitalization Project

2 Required skill

- Study: General Engineering
- Language: English, Japanese
- Other:
  - Programming / IT skills
  - Process understanding

3 Main task

- Support Digitalization project LES (Logistic Execution System)
- AI process roll out and small programming
Quality Management Department
Job Description – 1/8

Title of the internship

Internship in QM New Projects team

Required skill

- Study: Mechanical Engineering
- Language: Japanese and English
- Other: compute skill with MS office

Main task

- Accomplish New product development activities as per CVDS (商用車開発システム) process
- Drive stake holders for completing Maturity Level Report for every month of all projects
- Identify improvement areas in Product development process and propose new ideas to improve Quality or Efficiency
- Expected duration 6 months from Jan-2020
Title of the internship

Internship in Product reliability and warranty FUSO

Required skill

• Study: General Engineering
• Language: Japanese and English (Beginner)
• Other: Microsoft Powerpoint, Excel, word

Main task

• Establish/update and optimize problem solution process for field complaints
Title of the internship

Internship in Quality Management in the area of - Connected truck data analytics

Required skill

• Study: Computer Science
• Language: English (Basic level)/Japanese (Business level)
• Other: Basic understanding on data science and R Studio programming

Main task

• Analyze failure codes and identify sequences in failure code occurrences on the trucks
• Analysis of repair done and cost incurred for repair due to failure code
• Generate forecasting model to predict next possible failure code and associated cost
1 Title of the internship

Internship for Product Reliability and Warranty Fuso in DTA QM (TA/QMR, TM and FUSO legacy ENG)

2 Required skill

- Study: Mechanical Engineering knowledge
- Language: Japanese native and Basic English skill (for creating report written in English)
- Other: Basic PC skill (Excel, Power point, Word)
  - Basic technical knowledge for Engine and component of the automobile
  - Communication skill and good motivation

3 Main task

- Task 1: Quick and accurate Quality issue resolution for TM and FUSO Legacy Engine
  - PQR (Product Quality report) processing
  - Parts investigation and actual vehicle onsite investigation
  - SHIWAKE meeting and Tech table operation with related department (RD/CS/PO...)
- Task 2: Analyze Quality information data and create summary report
  - Data Analysis (PQR/Warranty/Service parts)
  - Create the report to upper management and update regularly
1 Title of the internship

Internship in PST (Problem Solving Team) Activity

2 Required skill

• Study: Mechanical Engineering knowledge
• Language: Japanese, English(read/write)
• Other:
  General skill of making report
  General software operation skill

3 Main task

• Join PST (Problem Solving Team) Activity (Coordinate 1 or 2 items)
• Propose of improvement the process
## Job Description – 6/8

### Title of the internship

Application for 1 intern on Tohoku University Project

### Required skill

- Study: In general Engineering
- Language: Japanese native, Interesting in communication in English at least
- Other:
  - Study: Interesting in quality management is better
  - Language: English middle level is better (e.g. TOEIC 600 or more)
  - Required 1 intern from TA/QMR_HDE & GTAS Team

### Main task

- Build problem solving for quality issue in field on powertrain
- Big data analysis of field quality and field part investigation on powertrain

### Department

<table>
<thead>
<tr>
<th>Required No. intern trainee</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA/QMR_HDE &amp; GATS Team</td>
</tr>
</tbody>
</table>
# Title of the internship

Internship in Kaizen project for management of COP inspection record

## Required skill

- Study: General Engineering
- Language: Japanese (native level), English (fluent level is not required)
- Other: PC skill (MS office is mandatory, and macro creating, visual basic and Power BI is preferable)

## Main task

- Research and consideration for Kaizen items
- Develop and construct of new management process and structure for COP inspection record
1 Title of the internship

Internship in material laboratory of quality department

2 Required skill

- Study: metallurgy, mechanic engineer, material science, material processing
- Language: English, Japanese
- Other: familiar to ISOs e.g ISO9001:2015

3 Main task

- Daily task support in material Laboratory with the basic related technical knowledge.
- Preparing documents for decision making.

Leadership comment: As an intern, you will work in a team with pricing experts, and opportunities to learn out of different technical issues, which is related to automotive industry
Customer Services Department
Job Description

1 Title of the internship

Internship in CS Business Development, Customer Satisfaction Program in Japan.

2 Required skill

- Study: Business administrative, System engineering background or equivalent
- Language: Japanese in native, English writing (Intermediate) and speaking (Basic)
- Other:
  Advanced Microsoft office skills; Excel, Power Point
  Excellent interpersonal, cross functional teamwork and communication skills

3 Main task

- Support administrative tasks on Customer Satisfaction Index (CSI)/Instant Feedback project in Japan
  - E.g. Weekly status report, Update required data maintenance
- Support monthly team KPI’s report creation