



2024

INTERNATIONALISATION AND INDUSTRY  
ATTACHMENT GUIDE

# NEXUS 301 & 302

## CREATIVE CONNECTIONS

NEXUS @ BTY is a cohesive, curated collection of activities designed to nurture Beattyians to become adaptive thinkers, agile learners and active contributors. Through a sequence of cross-disciplinary modules, NEXUS equips students with the skills and dispositions requisite to thrive in the years beyond their time at BTY, and is reflective of our commitment to prepare students for the challenges and opportunities of the future.



✦ [www.beattysec.moe.edu.sg/key-programmes/nexus](http://www.beattysec.moe.edu.sg/key-programmes/nexus) ✦

**Module Code:** NX 3011

**Name of Module:** Hiroshima, Mihara City – Beatty International Exchange Programme

**Place of Exchange:** Hiroshima and Mihara City, Japan

**Synopsis of Exchange:** Embark on a transformative journey with our exchange programme with Hiroshima University High School, renowned for its Super Science curriculum shaping future leaders in science and technology innovation. Students will engage in collaborative research projects spanning recycling, transportation, water conservation, green spaces, sustainable tourism, food culture, and historical preservation, under the mentorship of this Super Science High School (SSH) staff and students. Following the enriching exchange in Hiroshima, we unite with Mihara City council for a cultural immersion and homestay experience, fostering bonds with peers from all over Mihara City. This cross-disciplinary approach nurtures holistic learning, fostering a deeper understanding of sustainability and cultural exchange, vital for tomorrow's leaders.

**Number of Students:** 14

**Objectives:** Through this exchange, students will

1. sharpen their disposition to think critically;
2. become more confident in their communication through project presentations; and
3. develop a deeper sense of global and cultural awareness.

**Expectations:** All students are expected to

1. be proactive by preparing, participating and processing their learning;
2. connect, collaborative and create new knowledge; and
3. exercise humility, honesty and hospitality (including hosting at homestay).

**Deliverables:** By the end of the exchange, the students will

1. Present their work to their teachers, mentors, parents and peers;
2. Consider sharing their work at other platforms like Humanities and/or Science Symposium.

**Interview Questions**

1. What innovative project idea related to the programme's themes (e.g., recycling, sustainable tourism) excites you? Explain why in great detail.
2. Describe a topic with specific examples of Hiroshima and/or Mihara City's culture which you intend to explore. The topics must relate to any of the following: sustainability, cultural and historical preservation, food culture, economic growth
3. Plan a full day (8AM to 8PM) of the homestay experience for the student that you would host. What events and experiences would you include? Parental involvement in the plan is a must.

**Expected Cost:**

Reference Category	Non-FAS (SC)	Non-FAS (SPR/IS)	FAS/SAC (SC Only)	FAS/SAC (SPR)
Cost (in SGD)	\$1567.50	\$3135	\$627	\$1567.50
Remarks				

\*SC: Singapore Citizen; SPR: Singapore Permanent Resident; IS: International Student; FAS: Financial Assistance Scheme; SAC: School Advisory Committee Funds

Please note the following points.

1. All trips are subsidised by MOE.
2. Students would have to co-pay. This varies from trip-to-trip.
3. Students can co-pay using their Edusave.
4. Students who are Singapore Citizens and require more support can apply for the Opportunity Fund.

**Other points to note:** As this programme has a homestay component, participants and their families must be prepared to host for two nights in August. A commitment from parents/family members to be fully present, engaged and dedicated is therefore necessary for its successful implementation and meaningful cultural exchange.

For enquiries, please contact the following staff-in-charge:

Mdm Azlina Ibrahim, HOD Humanities ([Azlina\\_ibrahim@btyss.moe.edu.sg](mailto:Azlina_ibrahim@btyss.moe.edu.sg))

Mr Johann Lim Teck Leong, Teacher IC ([johann\\_lim\\_teck\\_leong@btyss.moe.edu.sg](mailto:johann_lim_teck_leong@btyss.moe.edu.sg))

**Module Code:** NX 3012

**Name of Module:** Mutsuzawa – Beatty International Exchange Programme

**Place of Exchange:** Mutsuzawa and Tokyo, Japan

**Synopsis of Exchange:** The Mutsuzawa township is located in the Chiba Prefecture, Japan. The local economy is supported by agriculture (rice and milk) and production of natural gas. Students embarking on this trip will propose an investigative study of your choice on the uniqueness that the region has to offer. Your visit to Mutsuzawa allows you to corroborate your findings and get a first-hand perspective. The programme will culminate with a cultural experience in the contrasting capital city of Tokyo.

Some possibilities of your study include the economy, weather, tourism or population. Your study should incorporate your understanding of mathematics, such as the use of descriptive statistics e.g. bar graphs, mean/median/mode. You are strongly encouraged to prepare for the interview by kickstarting your background research using the internet, for example, Google Earth, government and tourism sites, Wikipedia. Students selected for the overseas exchange will work in pairs. Teachers will guide and help scope your study.

**Number of Students:** 8 to 10

**Objectives** Through this exchange, students will

1. sharpen their disposition to think critically;
2. become more confident in their communication through project presentations;
3. develop a deeper sense of global and cultural awareness; and
4. apply the use of mathematics in the real-world context.

**Expectations:** All students are expected to

1. be proactive by preparing, participating and processing their learning;
2. connect, collaborative and create new knowledge; and
3. exercise humility, honesty and hospitality.

**Deliverables:** By the end of the exchange, the students will,

1. Present their work to their teachers, mentors, parents and peers;
2. Consider sharing their work at other platforms.

**Interview Questions:**

1. Describe an investigative study of your choice in reference to the Mutsuzawa region in Japan. You could print/show us your initial thoughts if it helps you.
2. Plan a full day (8AM to 8PM) of the homestay experience for the student that you would host over the weekend. What events and experiences would you include? (This could include time with your family and close friends)

**Expected Cost:**

Reference Category	Non-FAS (SC)	Non-FAS (SPR/IS)	FAS/SAC (SC Only)	FAS/SAC (SPR)
Cost (in SGD)	\$1,569	\$3,138	\$627	\$1,569

<b>Remarks</b>				
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\*SC: Singapore Citizen; SPR: Singapore Permanent Resident; IS: International Student; FAS: Financial Assistance Scheme; SAC: School Advisory Committee Funds

Please note the following points.

1. All trips are subsidised by MOE.
2. Students would have to co-pay. This varies from trip-to-trip.
3. Students can co-pay using their Edusave.
4. Students who are Singapore Citizens and require more support can apply for the Opportunity Fund.

**Other points to note:** As this programme has a homestay component, participants and their families must be prepared to host for two nights in August. A commitment from parents/family members to be fully engaged and dedicated is therefore necessary for its successful implementation and meaningful cultural exchange.

For enquiries, please contact the following staff-in-charge:

Mr Lawrence Koh, HOD Mathematics ([lawrence\\_koh@btyss.moe.edu.sg](mailto:lawrence_koh@btyss.moe.edu.sg))

Mdm See Huey Yi, Teacher IC ([see\\_huey\\_yi@btyss.moe.edu.sg](mailto:see_huey_yi@btyss.moe.edu.sg))

<b>Module Code:</b>	NX 3013
<b>Name of Module:</b>	Intersection of Leadership and Language Arts: New Zealand Overseas Exchange Programme
<b>Place of Exchange:</b>	Auckland, New Zealand
<b>Synopsis of Exchange:</b>	<p>The exchange programme, crafted in collaboration with Aorere College in Auckland, blends leadership and language arts. The relationship between language arts and leadership, focusing on mythology, storytelling, and symbolism drives exploration, fostering cultural understanding and personal growth.</p> <p>Singaporean students experience Kiwi hospitality, forming bonds and broadening perspectives. An inquiry project, a core aspect of the exchange, demands time and dedication as Beattyians collaborate with their Aorere College peers to delve into chosen themes, generating new insights.</p> <p>Navigating leadership, language, and culture, students leverage international collaboration to share discoveries. Enriched with knowledge and equipped with skills, they emerge poised to shape the future as global citizens and leaders. The Beatty-Aorere exchange transcends boundaries, leaving a lasting impact on all participants.</p>
<b>Number of Students:</b>	8
<b>Objectives:</b>	<p>Through this exchange, students will:</p> <ol style="list-style-type: none"> <li>1. sharpen their disposition to think critically and creatively;</li> </ol>

2. develop essential leadership qualities such as increased self-awareness as well as self- and peer-empowerment;
3. understand the pivotal role language arts plays in shaping the leadership landscape;
4. become more confident in their communication with overseas counterparts through project collaborations and presentations; and
5. develop a more acute sense of global and cultural awareness and sensitivities.

**Expectations:**

All students are expected to:

1. commit to excellence by being fully immersed in the following experiences:
  - . Online exchange via Zoom on 23 and 24 May 2024
  - . In-person exchange in New Zealand from 19 to 27 June 2024
2. be open-minded and proactive by preparing, participating and processing their learning;
3. connect, collaborative and create new knowledge;
4. exercise humility, honesty and hospitality during their stay in New Zealand;
5. respect the local cultures and customs, people as well as the environment; and
6. be responsible towards self and others.

**Deliverables:**

By the end of the exchange, the students will be able to:

1. consolidate their learning and share their project findings to teachers and peers by:
  - . displaying awareness of cross-cultural intricacies; and
  - . appreciating the connections between leadership and language arts.

**Interview Questions:**

1. How do you think language arts is instrumental in creating good leaders?
2. What is one research area you would like to work on based on the theme of language arts and leadership?
3. Share about one public figure whom you look up to? How has the language used by this person inspired you?

**Estimated Cost:**

Reference Category	Non-FAS (SC)	Non-FAS (SPR/IS)	FAS/SAC (SC only)	FAS/SAC (SPR)
Cost of trip:	3,538.00			
Student co-payment (in SGD):	<b>1,769.00</b>	<b>3,538.00</b>	<b>707.60</b>	<b>1,769.00</b>

\*SC: Singapore Citizen; SPR: Singapore Permanent Resident; IS: International Student; FAS: Financial Assistance Scheme; SAC: School Advisory Committee Funds

Please note the following points:

1. Students would have to co-pay. This varies from trip to trip.
2. Students can co-pay using their Edusave funds.
3. Students who are Singapore Citizens and require more support can apply for the Opportunity Fund.

**Other points to note:**

For enquiries, kindly write to the following staff-in-charge:

- o Mdm Jasmine Manimala (HOD/English Language and Literature)  
[jasmine\\_manimala\\_suppramaniam@btyss.moe.edu.sg](mailto:jasmine_manimala_suppramaniam@btyss.moe.edu.sg)
- o Mr Bobby Koh (SH/Student Leadership)  
[koh\\_yee\\_ee\\_bobby@btyss.moe.edu.sg](mailto:koh_yee_ee_bobby@btyss.moe.edu.sg)

**Module Code:** NX 3014

**Name of Module:** South Korea – Beatty International Exchange Programme

**Place of Exchange** Seoul, South Korea

**Synopsis of Project** 1. TECH for Good: In this project, students from South Korea and Singapore will work together to develop Artificial Intelligence and Machine Learning (AI and ML) solutions for real-world problems that benefit their communities.

**Number of Students** 8

**Objectives** Through this exchange, students will

1. develop critical, adaptive, and inventive thinking skills by tackling real-world challenges through collaborative project creation using AI and ML.
2. strengthen communication, collaboration, and information skills by working effectively with a team from a different culture to present their project findings.
3. develop a deeper sense of civic, global, and cross-cultural literacy by understanding the societal impact of AI and ML solutions and appreciating the diverse perspectives of their international teammates.

**Expectations** All students are expected to

1. be proactive by preparing, participating and processing their learning;
2. connect, collaborative and create new knowledge; and
3. exercise humility, honesty and hospitality (including hosting).

**Deliverables** By the end of the exchange, the students will,

1. present their work to their teachers, mentors, parents and peers;
2. Consider sharing their work at other platforms.

**Expected Cost**

Reference Category	Non-FAS (SC)	Non-FAS (SPR/IS)	FAS/SAC (SC Only)	FAS/SAC (SPR)
<b>Cost (in SGD)</b>	\$1,419.00	\$2,838.00	\$567.60	\$1,419.00
<b>Remarks</b>				

\*SC: Singapore Citizen; SPR: Singapore Permanent Resident; IS: International Student; FAS: Financial Assistance Scheme; SAC: School Advisory Committee Funds

Please note the following points:

1. All trips are subsidised by MOE.
2. Students would have to co-pay. This varies from trip-to-trip.
3. Students can co-pay using their Edusave.
4. Students who are Singapore Citizens and require more support can apply for the Opportunity Fund.

**Other points to note** If this programme has a homestay component, participants and their families must be prepared to host the Korean student when they visit Singapore. A commitment from

parents/family members to be fully present, engaged and dedicated is therefore necessary for its successful implementation and meaningful cultural exchange.

For enquiries, please contact the following staff-in-charge:

Ms Glenda Chiang, Teacher IC ([chiang\\_cheow\\_hwee\\_glenda@btyss.moe.edu.sg](mailto:chiang_cheow_hwee_glenda@btyss.moe.edu.sg))

Mr Tay Boon Leong, SH/Student Innovation ([tay\\_boon\\_leong@btyss.moe.edu.sg](mailto:tay_boon_leong@btyss.moe.edu.sg))

**Questions**

1. Suggest and describe an AI/ML solution that you would like to work with the Korean students that will benefit the community.
2. State some considerations and/or challenges when implementing the above solution.
3. Plan a full day (8AM to 8PM) of the homestay experience for the student that you would host. What events and experiences would you include?

**Module Code:** NX 3015

**Name of Module:** Geographical Investigation to Bali

**Place of Exchange:** Bali, Indonesia

**Synopsis of Programme:** Embark on an immersive exploration of Bali's dynamic landscape, where students hone geographical inquiry skills amidst tectonic activity. Through field sketching and observations, they will grasp the island's geological intricacies. Students will also engage with locals to learn how communities navigate tectonic risks and embrace the benefits of their natural environment. This hands-on investigation fosters a deep understanding of Bali's tectonic environment, highlighting the delicate balance between nature and society while advocating for sustainable development practices in tectonically active regions.

**Number of Students:** 40

**Objectives:**

Through this exchange, students will

1. understand Bali's volcanic history and the opportunities and risks brought about by the tectonic activity;
2. evaluate how local communities in Bali have adapted and developed resilience to coexist with tectonic activity;
3. sharpen their disposition to think critically through geographical lenses; and
4. apply their geographical investigation skills in a real-world context.

**Expectations:**

All students are expected to

1. be proactive by preparing, participating and processing their learning;
2. connect, collaborative and create new knowledge; and
3. exercise humility and honesty when interacting with local communities.

**Deliverables:**

By the end of the exchange, the students will,

1. Submit a group report as part of their Weighted Assessment; and
2. Present their work to their teachers, mentors, parents and peers.

**Expected Cost:**

Reference Category	Non-FAS (SC)	Non-FAS (SPR/IS)	FAS/SAC (SC Only)	FAS/SAC (SPR)
Cost (in SGD)	\$636.90	\$1,273.90	\$254.70	\$636.90



<b>Remarks</b>				
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Please note the following points.

1. All trips are subsidised by MOE.
2. Students would have to co-pay. This varies from trip-to-trip.
3. Students can co-pay using their Edusave.
4. Students who are Singapore Citizens and require more support can apply for the Opportunity Fund.

**Other Points to Note:** Only offered to students who are taking G3 Pure Geography

For enquiries, please contact the following staff-in-charge:

Ms Wee Yuting, SH Geography ([wee\\_yu\\_ting@btyss.moe.edu.sg](mailto:wee_yu_ting@btyss.moe.edu.sg))

Ms Jessica Kang ([kang\\_pei\\_yi\\_jessica@btyss.moe.edu.sg](mailto:kang_pei_yi_jessica@btyss.moe.edu.sg))

**Module Code:** NX 3021

**Name of Module:** Rockwell Automation (RA-BTY) Industry Attachment

**Place of Work Attachment:** Rockwell Automation  
2 Corporation Road, #04-05/06, Corporation Place

**Synopsis of Project:** In this industry attachment, students work under engineering professionals on research/investigative/problem-based projects under three themes:

- Digital Twin
- Sustainability
- Cybersecurity

There are 2 teams of 4 students in each theme. Students have the option to select their preferred theme.

The top 2 teams will stand a chance to participate in the First Lego League Singapore Challenge, sponsored by RA management.

**Number of Students:** 24

**Objectives:** Through this programme, students will

1. sharpen their disposition to think critically;
2. become more confident in their communication through project presentations; and
3. develop a deeper level of understanding interest in the engineering and STEM related sectors

**Expectations:** All students are expected to

1. open their minds, hearts and eyes to new perspectives and challenges and
2. connect, collaborative and create new knowledge.

**Deliverables:** By the end of the exchange, the students will,  
1. Present their work to their teachers, mentors, parents and peers;  
2. Consider sharing their work at other platforms.

**Expected Cost:** Students are expected to pay for their own transport to Rockwell and meals during work attachment.

**Other points to note:** For enquiries, please contact the following teacher advisor:  
Mdm Low Beng Hong, SH/ Character and Citizenship Education  
([low\\_beng\\_hong@btyss.moe.edu.sg](mailto:low_beng_hong@btyss.moe.edu.sg))

- Questions:**
1. For the team that you have selected, describe a quality that you have which makes you suitable for the role.
  2. Describe a challenging situation that you might encounter in the course of this work attachment and explain how you would handle it.
  3. What do you hope to learn from this work attachment?

**Module Code:** NX 3022

**Name of Module:** Pacific International Line - Industry Partnership

**Place of Exchange:** 128 Beach Road, #15-01, Guoco Midtown, Bugis  
Singapore 189773.

**Synopsis of Project:**

- . Project A : Explaining Blue Carbon and its Merits.  
In this project, students will develop slides and supported with good factual data, to compare the efficiency of ships as a means of transport (relatively to other modes) and convey the critical role shipping plays in global decarbonisation.
2. Project B : Explaining Shipping as a key Enabler to Saving the Environment.  
In this project, students will need to present and explain Mangrove as a blue carbon, its merits and why a corporate can consider incorporating reforesting mangrove as part of sustainability efforts.
3. Project C : Explore alternate material for shipping container's wood floor.  
In this project, you will
  - Familiarise with ocean shipping and the role of container in transportation
  - Understand the construction of shipping containers and the requirements of container flooring
  - Evaluate the strength and weakness of existing floor
  - Research and identify suitable alternate material in the market
  - Propose alternate container floor material
4. Project D (TBC) : Media, corporate communications, and publications aims to explore and enhance effective communication strategies within organizational frameworks. By analyzing the evolving landscape of media platforms and audience preferences, the project seeks to develop tailored communication plans that align with corporate objectives.

**Number of Students:** 10 - 15

**Objectives:** Through this industrial attachment, students will

1. **Enhance Critical, Design, and Computational Thinking Skills:** Students will be able to demonstrate a comprehensive understanding of the foundational principles as evidenced by their ability to analyse problems systematically, design effective solutions, and apply computational methods to address complex challenges.
2. **Develop Empathetic and Effective Communication Skills:** Throughout the course, students will refine their communication abilities to effectively convey ideas with empathy and clarity, both verbally and in written form. In addition, articulating their thoughts coherently across various mediums.
3. **Develop Learning Transfer and Metacognitive Skills:** Over the duration of the programme, students will cultivate skills in learning transfer and metacognition,

enabling them to adapt their knowledge and problem-solving strategies to new contexts effectively.

**Expectations:**

All students are expected to

1. be proactive by preparing, participating and processing their learning;
2. connect, collaborative and create new knowledge; and
3. exercise humility, honesty and hospitality

**Deliverables:**

By the end of the attachment, the students will,

1. effectively articulate complex concepts with confidence, clarity, and sensitivity to diverse audiences;
2. develop a sense of ownership and pride in the projects where they invest their time and effort into producing high-quality work; and
3. build valuable networking connections, further augmenting the students' professional prospects.

**Expected Cost:**

Reference Category	Non-FAS (SC)	Non-FAS (SPR/IS)	FAS/SAC (SC Only)	FAS/SAC (SPR)
Cost (in SGD)	Nil	Nil	Nil	Nil
Remarks				

**Other points to note:**

1. The attachment programme spans a duration of 9 months to 1 year
2. **Two-Part Structure to the programme:**  
PIL101: 3-Day Orientation  
PIL201: Mentorship Phase

**Interview Questions**

1. Shipping is often seen as a vital part of global trade but also contributes to environmental challenges. Why do you think it's crucial for young individuals like yourself to be involved in finding solutions to minimize the environmental impact of shipping activities?
2. Exploring alternatives to traditional shipping containers, such as those with wood floors, requires innovative thinking and a commitment to sustainability. What interests you about delving into this area during your industry attachment? How do you envision your involvement in this project could contribute to both your learning journey and the broader efforts towards eco-friendly shipping practices?
3. In today's digital age, multimedia skills like video editing, photography, and publication have become increasingly valuable. Can you discuss any experience you have in these areas? [OR] Share your experience with using Excel or similar spreadsheet software? How comfortable are you with tasks such as data entry, creating formulas, and generating charts or graphs?

For enquiries, please contact the following teacher advisor:  
Mr Xavier Ong, SH/Knowledge Management (ong\_guo\_lin@btyss.moe.edu.sg)

**Module Code:** NX 3023

**Name of Module:** Mentorship programme with A-STAR

**Place of Exchange:** 1 Fusionopolis Way, #20-10, Connexis North Tower  
Singapore 138632

**Synopsis of Project:** In this programme, students will have the opportunity to be mentored by esteemed researchers from research institutes in Singapore and industry professionals in the areas of Science and Technology. Through hands-on experience, mentorship and access to state-of-the-art laboratories, students will not only sharpen your academic skills but also cultivate invaluable traits such as critical thinking, problem-solving, and effective communication – essential qualities sought after in today's competitive landscape.

**Number of Students:** 12

**Objectives:** Through this mentorship programme, students will

1. Cultivate research skills and have a deeper appreciation for the research process as they conduct experiments and analyse data;
2. develop creativity, critical thinking skills, and metacognitive skills and innovation as they learn different approaches to problem-solving and collectively tackle complex research challenges; and
3. build their confidence to thrive in a rapidly evolving world.

**Expectations:** All students are expected to

1. be proactive by preparing, participating and processing their learning;
2. connect, collaborative and create new knowledge; and
3. exercise humility and honesty

**Deliverables:** By the end of the attachment, the students will,

1. effectively articulate complex concepts with confidence, clarity, and sensitivity to diverse audiences;
2. develop a sense of ownership and pride in the projects where they invest their time and effort into producing high-quality work.

**Interview Questions:**

1. What is your idea of an ideal team? If you have worked with one before, do share the significance of this experience and you learnt in the process.
2. Please share your experience about an assignment or project that you have done recently. Share with us what went well and what would you have done differently?
3. Why are you interested in this mentorship? What skills or experiences do you hope to gain?

**Expected Cost:**

Reference Category	Non-FAS (SC)	Non-FAS (SPR/IS)	FAS/SAC (SC Only)	FAS/SAC (SPR)
Cost (in SGD)	Nil	Nil	Nil	Nil
Remarks				

**Other points to note:** There will be at least one meeting with their group and together with the mentors every month.  
If the meeting falls on a Blended Learning day, students will have to arrange for their own transport to A-STAR and home.

For enquiries, please contact the following teacher advisor:  
Mdm Lim Yi Wen, SH/Physics ([lim\\_yi\\_wen@btyss.moe.edu.sg](mailto:lim_yi_wen@btyss.moe.edu.sg))