Briefing on Industrial Orientation (IO)

presented by

Mr Loh Pui Wah
Director, Career & Attachment Office

16 May 2014
Briefing Objectives

• To understand how important work attachment to your future career and job search.
• To know what is expected from you during your work attachment.

For specific enquiries on attachments, please call or visit
Career & Attachment Office
42 Nanyang Avenue
Student Services Centre, Level 4
Tel : 67905242
Email: CAO_EngrgAttachment@ntu.edu.sg
A Story...
14 June 2013

To Whom It May Concern

Testimonial for Woo Zhihui Tomoteru

Tomo joined Meinhardt Singapore as an intern as part of his fulfilment of the Industrial Attachment (IA) Programme stipulated by Nanyang Technological University (NTU). His short but valuable stint was for a period of 6 months which started from 14th January 2013 till 14th June 2013.

Throughout this period, Tomo was attached to a project team and was involved in various projects which allowed him to acquire many valuable skills such as project management and design analysis. Tomo also proved to be an independent learner and responsible worker through design analysis that he was tasked with as his first assignment in the Company. He has proved to be analytical, critical and confident of his findings and also delivering quality work given a short timeframe.

His confidence and ability to communicate effectively during meetings allowed him present his ideas in a logical and relevant manner which improved the design process of the project. He is conversant with his engineering fundamentals and is always able to relate to a practical scenario.

He is also a holistic learner who believes in combining theoretical and practical knowledge through site visits which was observed through his eagerness in wanting to understand and observe firsthand before embarking into the designing process. These positive attributes and behaviours helped him a great extent in mastering the key concepts and producing quality designs despite given a tight deadline.

He was then involved in a major overseas project role where his role was similar to an Assistant Engineer and was tasked in the preliminary design analysis in the Air Conditioning and Mechanical Ventilation (ACMV) discipline. He displayed a positive learning attribute and commendable team spirit while working with engineers from other disciplines throughout the course of the project. Through this project, he has built up a positive and close rapport with his fellow colleagues who believe in his independent working attitude in getting the job done.

Overall, Tomo has demonstrated many positive and encouraging attributes befitting of an undergraduate student and a co-worker in any industry. As such, the Company has recommended and offered him a scholarship for his final year of study in NTU. This has proven his capabilities in contributing positively towards the company’s operations.

Tomo has displayed a positive work attitude, key team player and personality which will put him in good stead for his future which will also make him a promising asset to any organization in the future. We wish him success in his future careers and all the best in his future endeavours.

Yours Sincerely,


Anthony Tam
Technical Director
Mechanical & Electrical Engineering Department
Meinhardt Singapore Pte Ltd
What employers want?

- Verbal and written communication skills
- Honesty and integrity
- Interpersonal skills
- Teamwork skills
- Strong work ethic
- Motivation and initiative
- Flexibility and adaptability
- Computer skills
- Analytical skills
- Organisational skills

Source: Manpower Group
What have IO got to do with this?
Employer: “I have many applicants from other universities. Why should I hire you from NTU?”

You: “Let me tell you my work experience and how I can contribute to your organisation.”
Graduate Employment Survey 2012

Attachment / Internship (AI) Programmes in NTU

✓ 4 in 5 participation in AI
✓ 2 in 5 said AI helped them obtain a job
✓ 1 in 3 said talking about their internship experience made them successful in their job interviews
✓ 1 in 5 said the company attached/interned better as full-time staff after graduation
7 out of 10 students at NTU land jobs before graduation

Most say internships during university years helped in job-hunting

By LINETTE LAI

ALMOST seven in 10 Nanyang Technological University (NTU) graduates from this year's cohort secured jobs before graduation, according to a university survey carried out at the end of last month.

Double-degree students reading accountancy and business did especially well, with nearly nine in 10 finding jobs prior to graduation.

For the top 10 per cent in this group, the average starting salary was $8,254 a month.

Many of the fresh graduates attributed their job-hunting success to their internship experience during their university years.

Such was the case for engineering graduate Lim Zhen Long, who joined Procter & Gamble's (P&G) Prestige business unit here in May after a two-month internship at the firm last year.

"In fact, the promise of a job after that internship was the main draw," said the 25-year-old.

"It's well known among students that companies hire back a large percentage of interns." Although he received an overseas job offer to work for energy company Halliburton in the United States, he turned it down for the post of demand planner at consumer products company P&G because he enjoyed his stint there.

"It was important to me that I was going back to somewhere familiar, where I knew I would sit well," he said.

Speaking at the first of the university's graduation ceremonies yesterday, NTU president Bertil Andersson announced that a record 87.19 per cent of this year's graduates contributed to the university, raising more than $120,600.

"Each year, it warms my heart when I see the graduating class making a class gift to help their juniors - even before they have drawn their pay cheque," he said at the event, which was attended by President Tony Tan Keng Yam.

Among this year's crop of fresh graduates is the pioneer batch from NTU's sport science and management programme, several of whom are national athletes.

One of them is national sailor Jovina Choo, who runs her own social enterprise, Dream+, which aims to build rapport with young people and instil values through the medium of sports.

Having more time on her hands as a fresh graduate, Ms Choo has "kicked up a few notches" where Dream+ is concerned and plans to reach out to young people at risk.

"We want to engage them so they can be in an environment where people can support them," said the 23-year-old.

Honorary degrees were also presented to three illustrious recipients, including PUB chairman Tan Gee Paw, at yesterday's ceremony.

National sailor Jovina Choo, 23, was among the graduates from the pioneer batch of NTU's sport science and management programme.

ST PHOTO: NURIA LING
How can IO benefit me careerwise?

✔ Apply engineering/science practices in real life business and work environment

✔ Enhance and develop academic, personal and professional competencies i.e. my USP (Unique Selling Proposition) – “Achievements” in your CV

✔ Create potential job opportunities at the attached company
Learning and Developing from real world experiences

1. **Apply my knowledge**
   - Analysis, synthesis, interpretation of data/information
   - Application of theoretical engineering/science concept
   - Formulation of action plans & evaluation of results

2. **Lay my career foundation**
   - Developing my skills as a professional engineer/scientist
   - Character – ethics, integrity, attitude
   - Clarity about career goals

3. **Develop my professional competencies**
   - Effective oral & written communication skills
   - Interpersonal relations & working in teams
   - Learning to be street-smart
Why do I have to do well?
Three Reasons Why I Must Do Well in IO

1. Course requirement:
   - Engineering – worth 4 Aus

2. Testimonials – Certificate of Accomplishment, Letter of Commendation

3. From interns to permanent hires
You are NTU’s Ambassador!
Maintain My Highest Professional Code of Conduct

• “I am in the real world, working”

*Unlike in school, “I cannot do as I please”*

- late for work
- knock off early especially on Fridays…
- update FB, message others, play game on smart phones
- make personal calls using company phone…
- alter MC… AWOL…
- disobey lawful instructions…
✓ Ability to grasp new ideas
✓ Dedication and drive
✓ Hardworking
✓ Put in own initiative

Dr Kannan Vinayagam
Principal Engineer

T +65 6303 2013 (Direct)
F +65 6293 1911
E Kannan.Vinayagam@mottmac.com
W www.mottmac.com

13th June 2013

LETTER OF APPRECIATION

To Whom It May Concern:

Shi Xiang was attached for his internship training with Mott MacDonald Singapore Pte Ltd for a period of 5 months from 14th Jan 2013 to 15th June 2013. The company is specialised in designing buildings and underground structures. During this period he has been reporting to me and I had the opportunity to guide him and supervise him on design projects that he had worked on.

His first assignment was design of multi storey indoor sport halls for schools. He has independently worked out structural frames for sport halls from the architectural drawings, designed the buildings with the help of design software with minimal guidance and produced sketches for drafters to produce drawings. His familiarity with the Singapore national annex to Euro codes and familiarity with Revit for BIM implementation were also an added advantage for him over the other engineers in the office. He also designed large span steel roof trusses and connection details and produced sketches like an experienced designer.

During the last two months of his internship, he played a major role in the tender design of Thomson line stations. This experience is definitely an eye opener for him as it is a jump from small scale projects to a large scale project. Here again he showed his ability to grasp new ideas, produced design details and learned to use different terminologies of underground construction.

During his short stay in our office, he became a buddy and became a part of the team. Shi Xiang has shown excellent ability to grasp the fundamentals of engineering design and has shown dedication and drive in delivering the design. He is conscientious, hardworking and dedicated and a quick learner. He put several hours on his own initiative to deliver the jobs given to him. He has a very promising career ahead. I take this opportunity to thank him and wish him good luck in his final year exams and further studies.

Yours truly,
Kannan Vinayagam
Principal Engineer
Mott MacDonald Singapore

Yours truly,
Soon Won Moi
Divisional Director
Mott MacDonald Singapore
Remember...
Although it’s 10 weeks, I make it count...

LEARNING
- Observe, Think, Ask, Find Out, Do

ATTITUDE
- “Can do” spirit, Positive, “Take it as a professional”

IMPRESSION
- Sharp, Articulate, Personality & Self-Confidence

OPPORTUNITY
- Jobs at IO company
- Referrals to other companies

NETWORK
- Future bosses, colleagues, customers, suppliers, business partners or best buddies
How am I assessed?
Assessment System for Engineering - 3 Levels

You will be assessed on:

- **Log Book and Oral Interview**
  - by NTU tutor
- **Work in Organisation**
  - by organisation supervisor
    (in conjunction with NTU tutor)
- **Final Report**
  - by NTU tutor
Assessment of Log Book and Oral Interview

Done on-line by NTU tutor

• Once at week 10

• Assessment criteria:
  – Logbook Keeping
  – Oral Interview

• Compulsory : Logbook

• Optional : Folder, small note book
Assessment of Log Book and Oral Interview

Assessment will be based on ability to:

- Maintain clear, concise & relevant entries in logbook
- Analyse, synthesis & interpret information in workplace
- Apply theoretical engineering/science concepts in workplace
- Evaluate results & formulate appropriate action plans
- Demonstrate understanding of professional ethics & work values
- Demonstrate understanding of company’s business and career field
- Explain technical knowledge learnt
- Provide evidence of written communication (e.g. emails, memo, letter, instruction manual, proposal, specification, technical drawing, etc)
Assessment of Work in Organisation

• Once at week 10
• Forms will be given to your supervisor by your NTU tutor
• Assessment will be based on:
  – Quality of Work Produced
  – Practical Ability, Creativity & Innovation
  – Communication Ability & Logbook
  – Work Standards & Ethics
  – Personal Discipline
  – Initiative & Motivation to Learn
  – Teamwork
  – Attendance
### Assessment of Work in Organisation (DPA/51)

**NANYANG TECHNOLOGICAL UNIVERSITY**  
**INDUSTRIAL ATTACHMENT - ASSESSMENT OF WORK IN ORGANISATION**

**NRIC / PASSPORT NO.**

**NAME**

**SCHOOL**

**ORGANISATION**

**NTU TUTOR**

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<tr>
<th>PERIOD OF REPORT</th>
<th>1st</th>
<th>2nd</th>
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<tbody>
<tr>
<td>Jan - Jun IA</td>
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<tr>
<td>Jul - Dec IA</td>
<td>Week 10</td>
<td>Week 20</td>
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### GUIDELINE

The performances of most students should fall in categories II, IV, V and VI. Categories I, II and VII should be used only for truly deserving students.

### PART I

To be completed by organisation supervisor  
(Please initial against any amendment made by you)

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<thead>
<tr>
<th>1</th>
<th>QUALITY OF WORK PRODUCED</th>
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<td>Consider the accuracy with which tasks are performed, appropriate attention to work details, neatness, effectiveness of work done.</td>
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<th>2</th>
<th>PRACTICAL ABILITY, CREATIVITY &amp; INNOVATION</th>
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<td>Consider ability to apply engineering fundamentals acquired and results obtained, to define problems, provide innovative solutions, learn to use new information and apply to new situations.</td>
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<th>3</th>
<th>COMMUNICATION ABILITY &amp; LOGBOOK</th>
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<td>Consider ability to express ideas clearly, concisely, and relevance of data entered in logbook.</td>
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<th>4</th>
<th>WORK STANDARDS &amp; ETHICS</th>
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<td>Consider personal attitude, willingness to contribute and cooperate, ability to do a good job for his/her own sake, performs in a manner that is both ethical and moral.</td>
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<th>5</th>
<th>PERSONAL DISCIPLINE</th>
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<td>Consider adherence to code of conduct, rules and regulations.</td>
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<th>6</th>
<th>INITIATIVE / MOTIVATION TO LEARN</th>
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<td>Consider ability to learn, job interest, dedication and willingness to extend oneself to complete assigned tasks.</td>
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<th>7</th>
<th>TEAMWORK</th>
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<td>Consider ability to work effectively with others and to build and maintain productive working relationships, even in difficult situations.</td>
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<th>8</th>
<th>ATTENDANCE</th>
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<td>Irregular, due to ________</td>
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Do you recommend the student for IA Book Prize?  
| Yes | No |

Justification:

**REMARKS:**

**INITIAL:** __________  
**DATE:** __________

**APPRaised BY:**  
Name ____________________  
Designation ____________________  
Contact No. ____________________  
Date __________  
Signature ____________________
Assessment of Final Report

Done on-line by NTU tutor

• Clear your final report with your organisation before submitting to tutor
• Submit the report to your NTU tutor by week 10
• Assessment criteria:
  – Presentation
  – Structure & Organisation
  – Introduction & Information Gathering
  – Reflective Description of Industrial Experience
  – Results & Discussions
  – Recommendation & Conclusion
JOINT REPORT IS NOT ACCEPTABLE

• Even if two or more are involved in the same programme.
• Each student should submit an individual report with own observations, recommendations and conclusions.
• The technical part of the reports could be similar, e.g. data.
**Project Planning – Scope, Timeline, Output [Programme Form (PartII)]**

<table>
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<tr>
<th>Name of Student</th>
<th>Name of Organisation</th>
<th>Name of NTU Tutor</th>
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2. **To be filled by Student based on the Information Below:**
   - **Programme Scope:**
     - Includes training on devices behaviour and function by supervisor on site. Expected to extend the scheme to a multiple number of chips. Basic part script available but innovation needed to make flow workable in a generic scheme.
   - **Prerequisites:**
     - Some understanding of micro-controllers. Basic Part knowledge preferred.

3. **To be filled by Organisation Supervisor:**
   - **Programme Scope (different from 2(a)):**
   - **Work Nature / Time Schedule for programme stated above:**

4. **To be completed by Student:**
   - **Learning Objectives (what I want to learn or could learn from this attachment):**
     1. Gain proficiency in Part programming.
     2. Understand the testing methodology of complex chips in the industry.
     3. Ability to carry out VLSI and testing.
     4. Some insight into VHDL.

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**Clarify & confirm Programme Scope, Outputs (Deliverables) and Expectations (Targets)**

**Establish specific time schedule and deadlines for tasks and activities with Organisation Supervisor**

**Set personal Learning Objectives**
PLEASE TAKE NOTE

• Programme may change due to dynamic nature of work environment and changing demands
  – “Be Prepared for Changes”

• Observe all safety rules and regulations
  – Ask for safety briefing or get a copy of safety rules and regulations

• Ensure adequate insurance coverage
  – Check SAO’s website on Additional Personal Accident Coverage during IO, e.g. work at construction site, shipyard, etc.
DO NOT DO THE FOLLOWING

• Non-disclosure of any confidential information
  – “Do not SMS, blog, twitter, MSN, email, broadcast in Facebook what cool or S!%@$&? stuff you are doing”

• No negotiation for any increase in allowance
  – “Do not complain to the whole world about the Wah#L?@peanuts$!! stipends you are getting”
VERY IMPORTANT NOTE

• **Disciplinary Procedures**
  – COI (Committee of Inquiry) and BOD (Board of Discipline) will hear company complaints about students who committed serious disciplinary cases
  – If you have ANY problems during IO, please seek help from your IO Organisation Supervisor, and/or NTU Tutor. If you wish to speak to CAO directly, please contact any of our staff officers.
Your IO may lead you to a job offer with the company...
All The Best & Enjoy Your IO!

Thank You
• Graduating students have secured IO placements.

• Around 180 students graduating next year have not received any offer of placements by companies.

• Around 120 Year 2 students have not received any offer of placements by companies.

• CAO will continue to follow up closely with companies to seek their cooperation to consider your applications.

• Students who received offer of placement later than 19 May 2014 will have their IO period shifted accordingly. The latest date to start IO for this Special Terms will be 2 June 2014.

• Students to self source or consider changing to IA

IA in Sem 1 AY2014-15 – more than 2000 placements; only about 200 students