The Hong Kong University of Science & Technology

Department of Civil and Environmental Engineering

Handbook for Civil Internship Program

2020
Objectives of the Civil Internship Program

1. To provide real working experience for students to enhance their understanding and appreciation of the knowledge acquired from academic courses.
2. To strengthen industrial collaborations in curriculum development.
3. To follow the HKIE’s requirements on industry training.

Arrangement of Civil Internship Program in 2020

In the summer of 2020, all Year III CIVL and CIEV, and Year IV CIGBM/CVGBM students will be pre-registered by the Department to take the required course CIVL3020 — Internship Training. Students are required to complete a minimum of six weeks of on-the-job training in a civil and environmental engineering consulting firm, contractor, developer or relevant government department under the supervision of professional practitioners. The Department aims to provide a sufficient number of summer placements to all students based on their CGA. Students who have completed a summer job are required to submit a training report to the Department in September for review. Any students who fail to fulfill the requirement of CIVL3020 will be given an “F” and will be required to retake the course in the next summer.

Guidelines and Procedure

Below are the regulations and guidelines applicable for the Civil Internship Program. The Department has liaised with the University Career Centre, who would forward information of all potential training employers and jobs in civil and environmental engineering to the Department for nomination. Any private invitation or application through either academic staff or outsiders should be referred to the Department for co-ordination and monitoring.

1. Ground Rules
   (1) Students seeking departmental nomination are required to sign the Application and Agreement Form (Form 1) provided by the Department and follow the regulations as stipulated by the Department.
   (2) Students should study the HKIE’s “Ethics in Practice” website (http://www.hkie.org.hk/cpd/icac/main1.html) and complete the quiz provided on the webpage. A copy of the quiz certificate should be submitted together with Form 1 to the Department on February 21, 2020.
   (3) Job nominations are based on students’ academic performance, i.e., CGA from the most recent semester. Summer job vacancies are limited. The Department will assist students in the best possible way in securing a summer job placement. However, the final decision of job appointments rests within the companies, not the Department. Interview by the employer may be necessary.
   (4) Students are required to seek prior approval before commencement of an internship, if it will be used to fulfill CIVL3020’s internship training requirement. Approval is required for both departmental or university nominated positions and self-sourced internships. Submission after the completion of an internship or after the start of an internship will not be accepted, and therefore the internship experience will not be counted towards CIVL3020. You are advised to submit the pre-approval form (Form 2) once you have accepted an internship offer. Please return the completed and signed application form to Miss Kelly Kwong.
   (5) To maintain communication between the intern trainees and the Department during the training period, students are required to complete the Interim Report of On-the-Job Training (Form 3) and upload the form to CANVAS within the first month of training. This Interim Report helps the Department
to monitor the quality of the internship and helps the trainees to solve both technical and non-technical challenges encountered in the office or on site.

(6) Internship training is a part of your educational and career training process. You should finish the job with a great sense of responsibility and effort. The employers will complete the **Performance Appraisal Report of Summer Intern (Form 4)**. NO student shall resign or cut short the agreed training period without prior approval from both the employer and the Department.

(7) Students are required to submit a Training Report which should not exceed 2,500 words, excluding photographs, diagrams and drawings. The Report should summarize the job duties assigned and the skills and knowledge gained during the internship training. The content and structure requirements of the Report are shown in the Appendix. **Reports are to be submitted to Miss Kelly Kwong on or before September 4, 2020.** Students who fail to submit a report on time will be given an “F” in CIVL3020.

(8) For self-sourced internship, students may submit the Training Report to the Department by the same deadline to apply for fulfilling the requirements of CIVL3020. Course approval will only be granted if and when the student has provided sufficient evidence that relevant civil and environmental engineering experience has been gained, that the student has performed well under proper supervision by a qualified professional engineer in the summer placement, and the summer placement has not been shorter than six weeks.

2. **Nomination Procedure**

Students who seek departmental nominations must follow the following procedures:

(1) Once the Department has received a job’s information, Miss Kelly Kwong will send an email to all Year III students. The email will specify the deadline for signing up.

(2) Students interested in applying for the job should submit their applications via the HKUST Qualtrics Survey System. Latecomers will not be entertained.

(3) The Department generally short-lists students based on their CGA of the most recent semester. However, the Department shall follow specific criteria set by employers, where appropriate.

(4) Short-listed students will be notified by email about the deadline for submitting all required documents.

(5) Students who fail to submit all required documents by the deadline are NO LONGER ELIGIBLE for departmental nomination for that job.

(6) Students should consider all job positions seriously before they sign up. Students are NOT allowed to decline departmental nomination except under extenuating circumstances, such as medical emergencies that are beyond their control. Students must apply to the Department for special permission to decline a nomination within 24 hours of receiving the notification email. For requests due to medical reasons, students are required to submit certification issued by a registered medical practitioner. Appropriate documentation will be required for requests due to other reasons.

(7) Students who are nominated by the Department and appointed by the company MUST take up the job offer, otherwise they will NO LONGER BE ELIGIBLE for any departmental nomination and will be subject to 3(3) below.

(8) Students who are nominated by the Department but are rejected by the company, are eligible to sign up for other jobs which are still open for applications. Students falling into this category do NOT have priority over other students. Nominations will be based on students’ CGA under all circumstances.

(9) Students must report to Miss Kelly Kwong regardless of whether they have been appointed or rejected by a company. For reported rejections, Miss Kwong will re-confirm with the companies, so that the students being rejected can apply for other jobs. For dishonest reporting, the students
will be disqualified and will NO LONGER BE ELIGIBLE for departmental nominations, and will be subject to 3(3) below.

10 Students who have not been formally rejected by a company (or been informed so via the Department) are NOT allowed to withdraw their applications and sign up for any other jobs. Students should make their choices carefully. Some job offers, especially those offered by the government, may take a longer time to complete the appointment procedure.

3. Rights of the Department
   (1) The Department reserves the right to revoke a student’s nomination if the student has shown any signs of irresponsibility during the nomination process.
   (2) If the Department receives complaints from a company or department regarding the poor performance of a student during the appointment period, the student will receive an “F” for CIVL3020. Furthermore, the Department will keep these complaints on record and may refuse to write reference/recommendation letters when the student seeks permanent employment or pursues postgraduate studies in the future.
   (3) Penalties including but not limited to the below, will be imposed if a student fails to comply with the guidelines or training agreement, or if dishonest reporting is found:
       • The Department may refuse to write reference/recommendation letters
       • An “F” grade may be assigned to the student for CIVL3020

4. Consultation
   Students may contact Prof CM Chan (cecmchan@ust.hk) or Miss Kelly Kwong (cekelly@ust.hk) for consultation.
The Hong Kong University of Science and Technology
Department of Civil and Environmental Engineering

Year III Student Summer Job/Training Application and Agreement Form

Name of Applicant: (In English) ______________________ (In Chinese) ______________________

Sex: _______ Student ID: ___________________ HKID No.: ___________________

Email: ___________________ Contact Tel: ___________________

I hereby request the assistance from the Department to put my name on the nomination list to be forwarded to various departments/companies for the application of summer job. I have read, fully understand and agree to follow the "Handbook for Civil Internship Program" published by the Department. I am fully aware of the consequences outlined in the handbook for non-compliance. I also agree that this form may be referred to any potential employer and that the employer may submit any performance appraisal to the Department during and after the employment / training.

Signature: _____________________________

Date: _____________________________

Please also indicate below if you would like to be nominated by the Department for summer training in Mainland China organized by the Children & Youth Science Center of the China Association for Science and Technology. Nomination results will be released in March 2020, and nominees are not allowed to decline the nomination or withdraw from the programme.

I *do / do not wish to take summer internship training in Mainland China.

(*please delete as appropriate)

Signature: _____________________________

Date: _____________________________

Please staple the completed Application and Agreement Form and the HKIE Ethics in Practice Certificate together and return to the collection box at General Office of the Department with attention to Miss Kelly Kwong (Tel: 2358-8477) by February 21, 2020.
Students are required to seek prior approval BEFORE commencement of an internship, if it will be used to fulfil CIVL3020 internship training requirement. Approval is required for both departmental or university nominated positions and self-sourced internship. Submission after completion of internship or after the start of internship will not be accepted, and therefore the internship experience will not be counted towards CIVL3020.

You are advised to submit the pre-approval form once you accept an internship offer. Please return the completed and signed Departmental Pre-Approval Form to Miss Kelly Kwong at Room 3575, Lift 27/28 Department of Civil and Environmental Engineering, The Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong

PART I       Personal Particulars

Name: (In English) ___________________________ Student ID: ___________________________

Email: ___________________________ Contact Tel: ___________________________

PART II       Details of the Internship Positions

Source of Internship*: Department / Career Center / Self-Sourced

Company Name: ___________________________

Nature of Business*: Contractor / Consultant / Government / Others (please specify): _____________

Position: ___________________________

Job Description: ___________________________

Salary: ___________________________ Period: ___________________________

Signature: ___________________________ Date: ___________________________

*Please delete as appropriate.
Interim Report of On-the-Job Training

This Form is to be completed by the Trainee

Name of Trainee __________________________ Mobile Phone No. of Trainee __________________________
Position of Trainee __________________________ Report Date __________________________

A. Name of Organization __________________________
Address of Organization __________________________

Name of Supervisor __________________________ Position of Supervisor __________________________
Telephone No. of Supervisor __________________________ Email of Supervisor __________________________

B. Anticipated Training Period __________________________
Nature of Training __________________________ (e.g. planning, design, construction)
Training Details __________________________
Name of Project (if any) __________________________
Title of Contract (if any) __________________________
Location of Address of Site (if any) __________________________

C. If you are satisfied with this training arrangement, please skip this section if desired
Communication problem __________________________
Transportation and traveling problem __________________________
Risk management problem __________________________
Environmental problem __________________________
Workload problem __________________________
Cultural problem __________________________
Technical problem __________________________
Other problem __________________________

D. If you are satisfied with this training arrangement, skip this section if desired
Please arrange a discussion on the phone __________________________
Please pay a visit to my office __________________________
Please visit my site __________________________
Please discuss with my colleague __________________________
Please discuss with my supervisor __________________________
Please approach me on my email address __________________________
Other request __________________________

Signature: __________________________ Date: __________________________

Thank you for completing this form, after completion please upload the form to CANVAS within the first month of training.
Employer Survey on Performance of Engineering Students in Internship Programs

Dear Employer,

The purpose of this survey is to collect feedback from employers on the competencies of undergraduate students in civil and environmental engineering discipline of the Hong Kong University of Science and Technology (HKUST).

Your opinion is very important for us to continuously improve our programs and to better prepare our students for professional practice in their respective positions.

Please pass this form to the immediate supervisors of each of our students that you have employed as full-time staff and invite them to complete the form for each individual. Please make copies of this survey if necessary.

All the data obtained in this survey will be treated in strict confidence. Individual responses will be coded and reported in an aggregate form.

Please return the completed questionnaire to us on or before September 4, 2020. For enquiries, please contact Prof. C M CHAN (Tel: 2358 7173; Email: cecmchan@ust.hk).

Thank you in advance for your valuable input which will help us improve the quality of our programs and graduates.

Prof. Hong K. Lo
Chair Professor and Head
Department of Civil and Environmental Engineering
The Hong Kong University of Science and Technology
Part I – Demographic Information

1. Company Name: 

2. Student Name: 

3. How many internship employees does your company employ (worldwide, including Hong Kong)?
   - Less than or equal to 3
   - Between 4 to 6 (inclusive)
   - Between 7 to 9 (inclusive)
   - Equal to or more than 10

Part II – Details and Performance of Student

1. What is the student’s year of study at HKUST during the internship period? (Please estimate)
   - First year
   - Second year
   - Third year
   - Not sure

3. Please state the current post or job title of the student:

4. What is the employment period of the internship program?
   - 1 month or less
   - 2 months
   - 3 months
   - 4 months or more

5. Job nature / responsibilities of the graduate (can tick more than one)
   - Structure Design
   - Temp. Work Design
   - Administration/ Management
   - Tendering/ Procurement Process
   - Land Surveying
   - Site Supervision
   - Quantity surveying/ Measurement
   - Drainage
   - Sewage
   - Transportation
   - Research
   - Real estate
   - Foundation Design
   - Site formation
   - ELS
   - Utility Maintenance
   - Structure Maintenance
   - Road and Highways
   - Ground Investigation
   - EIA/ Feasibility Studies
   - Environmental Protection
   - Others (Please specify):

Please stamp the company chop here:
6. Below are listed 12 abilities that an engineering graduate should possess. **Please read the items and identify the appropriate level that reflects your expectation (with 1 being the lowest and 5 being the highest) for an engineering graduate of the post and the actual performance (with 1 being the lowest and 5 being the highest) of the student. If a particular ability is not required for the post, or if you cannot evaluate the performance of the student for a specific item, please choose n/a.**

<table>
<thead>
<tr>
<th>Ability</th>
<th>Expectation</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Apply knowledge of mathematics and science to think analytically and logically</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>2) Apply scientific and engineering principles to the solution of complex problems</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>3) Understand the process of experimentation and able to analyze and interpret scientific data</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>4) Use computers/IT tools necessary for the profession</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>5) Identify, formulate and solve engineering problems</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>6) Design a system, component, or process</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>7) Acquire basic knowledge in several disciplines to work in a multidisciplinary environment</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>8) Gain in-depth knowledge of a civil engineering discipline</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>9) Communicate and present ideas effectively</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>10) Recognize the need for, and to engage in life-long learning</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>11) Understand professional and ethical responsibility</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
<tr>
<td>12) Stay abreast of contemporary issues</td>
<td>1 2 3 4 5 n/a</td>
<td>1 2 3 4 5 n/a</td>
</tr>
</tbody>
</table>

**Please stamp the company chop here:**
7. Please rate the OVERALL performance of the student:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal satisfactory</td>
<td>Marginal satisfactory</td>
<td>Satisfactory</td>
<td>Competent</td>
<td>Highly competent</td>
<td>Excellent</td>
</tr>
<tr>
<td>The student performs at an acceptable level and in some occasions fails to meet the requirements</td>
<td>The student performs at a satisfactory level that generally meets the requirements</td>
<td>The student consistently performs to a good standard and occasionally exceeds the requirements</td>
<td>The student consistently performs to a high standard and often exceeds the requirements</td>
<td>The student consistently performs to a very high standard and usually exceeds the requirements</td>
<td></td>
</tr>
</tbody>
</table>

8. Are there any other abilities or attributes you believe are important when employing university graduates?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

9. What strengths and weaknesses do HKUST engineering students possess?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

10. In what area(s) does HKUST need to improve its preparation of graduates for employment?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

This is the end of the questionnaire. Thank you very much. We would very much like to hear more of your feedback through a short interview. Please indicate your preference:

☐ I am happy to be contacted for more information on related matters, and I can be reached by

Name: __________________________ Email: __________________________ Phone: __________________________

☐ I do not want to be contacted.

Please stamp the company chop here:

Please return the completed form to: Prof C M Chan c/o Miss Kelly Kwong, Department of Civil and Environmental Engineering, The Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong. Tel: 2358-8477 / 2358-7154; Fax: 2358-1534; Email: cecmchan@ust.hk or cekelly@ust.hk
Appendix

Training Report

Requirement
Please complete the attached Training Summary (ANNEX) and attach it to the front of your detailed training report. This will assist the Department in evaluating your performance during the training. The format of the Summary is to follow the requirements of The Model Training Guide for Civil and Environmental Engineering as shown below.

Contents of detailed training report
The report should be written briefly with technical descriptions of work carried out including the principles involved, and may be illustrated with tables, flow charts, formulae, sketches, diagrams and photographs where pertinent. It should describe the tasks that you have been assigned to do. Tasks should be classified by nature according to investigation, planning, design, construction or research.

The account should be in chronological order and if you have not been totally responsible for an assigned task, the extent of your involvement and responsibility should be clearly stated. You should expand on any special problems encountered, how you have solved them and opportunities for gaining valuable experience.

Where appropriate, some indication of the size, complexity and cost of the works should be given. For a design or construction project, you should describe your role in the development of the project and provide background for any important decisions that you have been responsible or have had some influence. You may add no more than two drawings or sketches besides other documents as appendix if these are necessary to complete and explain the work. The inclusion of annotated photographs showing site works and other relevant locations is encouraged.

Your report should be typed on A4-size paper. It should not exceed 2,500 words, excluding photographs, diagrams and drawings.

Tips for writing the training report

1. Scope – the Training Report records your training. It is not a project report or a technical report. Therefore focus on your job assignment, your involvement in projects, your experience, your duties, etc. The description of your company and your projects should be kept to a minimum. Technical details, if any, should be included in the Appendix. There is no need to include calculations or design details.

2. Include a cover page and content page. Print on new A4-sized sheets, not used/recycled paper, single-sided. Staple any loose sheets at the top left corner. Do not use a paper clip or spiral-bind the report.

3. Insert the Training Summary immediately after the content page and remember to fill in the first column with Model Training Guide Items.

4. Boldface headings and sub-headings. Headings should include, inter-alia, Introduction, Conclusion and Reference.

5. Use past tense for all events that happened during your training. Within a sentence, tenses should be consistent.

6. Check sentence syntax. Check active or passive voice. Check spelling and grammatical mistakes. Improve the style as much as possible. Avoid long, clumsy sentences.
Model training guide (itemised) for Civil and Environmental Engineering

Introduction
Information about the organization: a) size and history. b) management structure and functions. c) communication systems. d) training programmes and career development.

Design and associated office experience
1. Organization of design and associated offices.
2. Programming of design work.
3. Familiarization with standards, codes of practice and design manuals.
4. Examination of site investigation records in deciding outline solutions taking due consideration of possible alternative designs and their costs.
5. Site inspection and survey for design.
6. Site investigation including knowledge of equipment and techniques.
7. Testing of samples to obtain design data and proper use of testing equipment.
8. Feasibility studies including economic considerations.
9. Civil engineering design of permanent and/or temporary works and preparation of drawings.
10. Methods of construction including safety considerations.
11. Taking off quantities and preparation of bills of quantities to standard methods of measurement.
13. Knowledge of conditions of contract and specifications.
14. Tender preparation and evaluation.

Site experience
1. Planning and programming of construction.
2. Resource planning, allocation and control.
3. Methods of construction and their proper sequence, including design of temporary works.
4. Setting out of works and knowledge of surveying instruments.
5. Mechanical plant including knowledge of use, capacity, output and cost.
6. Materials including their cost, storage and handling problems, quality and other characteristics.
9. Valuation of variations including variation orders.
10. Interim statements and certificates.
11. Site safety.
12. Working conditions and welfare.
13. Liaison with other organizations and the public. Site administration including control and management of subcontracts.
14. Site records and reports.

General
1. Staff relationship, human resource planning, motivation and enforcement.
2. Professional ethics and responsibility.
3. Statutory requirements, laws and ordinances affecting project implementation.
5. Financial forecasting, budgeting and cost control.
7. Appreciation of computer techniques and their limitations.

Ensure that any company information/material included in the report is approved by your employer.
TRAINING SUMMARY (Sample)
for the period starting June 2020

Category of work:

- Civil □
- Structural □
- Geotechnical □
- Transport □
- Construction □
- Environmental □
- Others □ ___________(please state)

<table>
<thead>
<tr>
<th>Model Training Guide Items.</th>
<th>Give brief description of each principal type of work you were engaged in during the period.</th>
<th>Weekly periods Give commencement and completion dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>II 9.</td>
<td>For the month of June 2020 Engineering design of footbridge for Contract No. HY/1/02 Location: Mongkok, Kowloon.</td>
<td>7/6</td>
</tr>
<tr>
<td>II 11.</td>
<td>Preparation of bills and quantities including costing for work on footbridge under Contract No. HY/1/02</td>
<td>25/6</td>
</tr>
<tr>
<td>II 12.</td>
<td>For the month of July 2020</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For the month of August 2020</td>
<td></td>
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</tbody>
</table>