DUY TAN UNIVERSITY

INTERNATIONAL SCHOOL

PROGRAM GUIDEBOOK

Civil Engineering

AY 2018-2019

254 Nguyen Van Linh, Tp. Da Nang

Jun, 2018

Forward
Chair's Welcome

Welcome to the 2018-2019 Academic Year at Duy Tan University (DTU), International School.

The **Civil Engineering Program Guidebook** is designed to assist you with the standards, policies, procedures and guidelines that will help you have a positive academic experience. Please be aware that the policies, guidelines and forms contained in this **Civil Engineering Program Guidebook** remain under review and any section or part may be revised without notice or obligation during your tenure in the program.

It is your responsibility to read the DTU University Academic Catalog 2018-2019, DTU Student Guidebook, and the Student Code of Conduct and to follow all guidelines, rules and regulations as they relate to DTU, International School and the Civil Engineering Program.

I hope this is a rewarding and successful year for you.

Sincerely,

Tran Van Duc, Ph.D.

Chair of Civil Engineering Program

Introduction
International School Vision and Mission

Vision

To provide the best value in high-quality engineering education.

Mission

To produce engineering leaders in selected disciplines with strong technical competence and professional skills to meet the challenges of Vietnam and beyond.

Civil Engineering Program Overview

Civil Engineering concerns the study of the conception, design, construction, and maintenance of large public and private projects. Civil engineers plan, design, and supervise the building of bridges, highways, railways, tunnels, airports, dams, water treatment and distribution systems, buildings, and many other types of structures. Environmental considerations, such as water supply, pollution control, and preservation of soil quality, are also important.

The Engineer's Degree in Civil Engineering (E.D.C.E) Program focuses on five of the core competency areas of civil engineering; environmental, geotechnical, structural, and water resources engineering, building construction. This program employs a team-based interdisciplinary learning philosophy. This approach provides students with the critical thinking skills required for effective and innovative engineering practice. Students will be prepared to combine social awareness and an interest in humanity with the technical expertise of the engineering profession as they plan, design, and construct a built environment. E.D.C.E students complete core courses common to all engineering majors as well as specialized courses in civil engineering.

Civil Engineering Program Mission

The mission of the E.D. Civil Engineering degree program is to:

- Deliver graduates broadly educated in engineering approaches to problem sustainable future for Vietnam and beyond
- Prepare leaders for the Civil Engineering professions, professional licens graduate and professional degrees and lifelong learning
- Provide an interdisciplinary, entrepreneurial and service oriented learnin that values diversity, ethical practice, professionalism, and collaborative achieve sustainability across civil engineering sub-disciplines

Program Educational Objectives and Student Outcomes

The Civil Engineering Program of the International School has formulated the following Program Educational Objectives, which describe the career and professional accomplishments that our E.D.C.E degree program is preparing graduates to achieve. In support of these objectives, the faculty have also identified the following Student Outcomes, which describe what students are expected to know and be able to do by the time of graduation.

Program Educational Objectives

The Civil Engineering Program of the International School in the Duy Tan University will produce graduates who:

- Pursue lifelong learning through continuing education and/or advanced degrees in civil engineering or other related fields,
- Progress to professional registration, and
- Continue to develop professionally through participation in professional organizations and/or participation in professional development activities in the industry.

Student Outcomes

Graduates of the civil engineering program will attain:

a) an ability to apply knowledge of mathematics, science, and engineering,
b) an ability to design and conduct experiments, as well as to analyze and interpret data,
c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability,
d) an ability to function on multidisciplinary teams,
e) an ability to identify, formulate, and solve engineering problems,
f) an understanding of professional and ethical responsibility,
g) an ability to communicate effectively,
h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context,
i) a recognition of the need for, and an ability to engage in life-long learning,
j) a knowledge of contemporary issues, and
k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Civil Engineering Program Requirements

Program requirements for the B.S.C.E program can be found within the University Academic Catalog, located at: http://csu.duytan.edu.vn/Details/Listnoidung

This link provides program specific information including:

Content Knowledge	Total Credits	Required Credits	Credit Electives
General Knowledge:	**64**	**56**	**8**
Education Professional knowledge:	**104**	**99**	**5**
Engineering Common Core	55	55	
Additional Graduation Requirements	12	9	3
Required Courses in the Major	29	27	2
Graduation Practice	3	3	
Final Project	5	5	
Total:	**168**	**155**	**13**

Timely Progression Toward Degree

The International School in Duy Tan University uses academic milestones to monitor academic progress throughout the major. This monitoring ensures that students are on track for graduation in a timely fashion. In addition, transfer students must meet mapping guidelines to be accepted into their majors. A sample schedule for the Civil Engineering Program is provided below. This sample schedule serves as a general guideline to help the student build a full schedule each term.

Missing a milestone will result in registration holds. Students are allowed no more than two milestone non-compliance issues in the Civil Engineering Program. The first missed milestone in the major results in a hold being placed on the student's account, requiring students to meet with their advisor for additional assistance prior to registration for the subsequent semester. At this time, remaining milestone deadlines may be adjusted per the student's plan to graduation. If a student is in non-compliance with the milestones for a second time, a hold is placed on the student's account and the student will be required to meet with an advisor to change majors.

For the E.D in Civil Engineering Program, along with maintaining an overall GPA of 2.0 or higher at all times. Note that the semester number refers to the number of semesters after a student enters the International School.

Sample Course Schedule

SEMESTER I – FIRST YEAR

Major Code	No. of course	*Course Title*	*Prerequisites*	*Credits*
MTH	103	Advanced Mathematics A1		3
CSU-PHY	101	Fundamental Physics CSU 1		3
ARC	111	Descriptive Geometry 1		2
ENG	126	Reading Level 1		2
ENG	127	Writing Level 1		2
COM	102	Professional Writing (Vietnamese)		2
DTE-IS	102	Career buiding 1		1
		Total:		**15**

SEMESTER II – FIRST YEAR

Major Code	*No. of course*	*Course Title*	*Prerequisites*	*Credits*
CSU-CIE	260	Engineering surveying		3
DTE-IS	152	Career buiding 2		1
CSU-CIE	111	Computer aided Architectural and Civil Engineering Drafting		3
CS	101	Basic Computer Skills		3
CSU-CHE	101	General Chemistry		3
CSU-ENG	128	Listening Level 1		2
CSU-ENG	129	Speaking Level 1		2
CSU-ENG	226	Reading Level 2	ENG 126	2
		Total:		**19**

SEMESTER I – SECOND YEAR

Major Code	*No. of course*	*Course Title*	*Prerequisites*	*Credits*
CSU-EE	341	Electrical Engineering for Construction		3
MTH	104	Advanced Mathematics A2	MTH 103	4
CS	201	Basic Computer Application	CS 101	3
CSU-MEC	201	Statics		3
CSU-ENG	227	Writing Level 2	ENG 127	2
CSU-ENG	228	Listening Level 2	ENG 128	2
CSU-ENG	229	Speaking Level 2	ENG 129	2
		Total:		**19**

SEMESTER II – SECOND YEAR

Major Code	*No. of course*	*Course Title*	*Prerequisites*	*Credits*
AHI	392	History of Western Architecture		2
CIE	321	Construction Materials		2
CIE	322	Construction Materials LAB		1
COM	101	Professional Speaking (Vietnamese)		2
CSU-ENG	130	English for construction CSU 1		2
CSU-CIE	296	CDIO Project 1		1
CSU-HYD	201	Engineering Hydraulic		3
CSU-MEC	202	Dynamics	CSU-MEC201	3
PHI	100	Critical Thinking		2
PHI	161	Marxism - Leninism 1		2
		Total:		**20**

SEMESTER I – THIRD YEAR

Major Code	*No. of course*	*Course Name*	*Prerequisites*	*Credits*
CIE	248	Cognitive Practice		1
CSU-ARC	391	Architecture of Civil and Industrial Building		4
CSU-CIE	396	CDIO Project 2		1
CSU-MEC	211	Mechanic of materials 1		3
CSU-MEC	306	Structural Analysis 1 (+ SAP)		4
GLY	291	Engineering Geology		3
DTE	201	Professional Ethics		2
CSU-ENG	230	English for construction CSU 2	CSU-ENG130	2
		Total:		**20**

SEMESTER II – THIRD YEAR

Major Code	*No. of course*	*Course Title*	*Prerequisites*	*Credits*
CSU-MEC	316	Soil Mechanics		4
CSU-CIE	403	Engineering Construction		3
CSU-MEC	212	Mechanic of Materials 2		2
CSU-CIE	323	Foundation Design		2
CSU-CIE	324	Foundation Design Project		1
CSU-CIE	376	Reinforced Concrete Design		3
CSU-CIE	377	Reinforced Concrete Design Project		1
CSU-ENG	330	English for Construction CSU 1	CSU-ENG230	2
CSU-MEC	307	Structural Analysis 2		2
		Total:		**20**

SEMESTER I – FOURTH YEAR

Major Code	*No. of course*	*Course Title*	*Prerequisites*	*Credits*
AHI	391	History of Eastern Architecture		2
CIE	404	Organisation Construction		2
CIE	435	Construction Machinery	CIE-322	2
CIE	450	Labor Safety		2
CSU-CIE	378	Structural Steel Design		3
CSU-CIE	426	Reinforced Concrete Building Design		2
CSU-CIE	427	Reinforced Concrete Building Design Project		1
HIS	361	History of the Communist Party of Vietnam		3
CSU-CIE	496	CDIO Project 3		1
		Total:		**20**

SEMESTER II – FOURTH YEAR

Major Code	*Major Code*	*Course Name*	*Prerequisites*	*Credits*
CIE	428	Steel Building Design		2
CIE	429	Steel Building Design Project		1
CIE	431	Assembly Technology of Civil & Industrial Engineering		3
CIE	432	Assembly Technology of Civil & Industrial Engineering Project	CIE 427	1
CIE	433	Organization Construction of Civil & Industry Engineering	CIE 404	3
CIE	434	Organization Construction of Civil & Industry Engineering Project	CIE 404	1
CIE	483	Speacial Construction Engineering		2
CIE	486	Technical Construction of Concrete Structures in place Project		1
PHI	162	Marxism - Leninism 2	PHI 161	3
		Total:		**17**

SEMESTER I – FIFTH YEAR

Major Code	*No. of course*	*Course Name*	*Prerequisites*	*Credits*
CSU-CIE	441	Construction Project Management		3
CIE	477	Pre-stressed concrete Design		4
POS	361	Ho Chi Minh Ideology		2
CSU-CIE	448	Graduation Practice		3
CSU-CIE	447	Final Project		5
		Total:		**15**

Core Courses Description

CSU-CIE 111 Computer-Aided Architectural and Civil Engineering Drafting (3)

Architectural and civil engineering drawing with the aid of computer-aided drafting techniques; grading plans, engineering drawings (including standard structural, electrical and hydraulic details) of buildings, bridges, dams and civil engineering structures. Bill of Materials.

CSU-MEC 201 Statics (03)

Vectorial treatment of statics of particles and rigid bodies. Free body diagrams. Applications to problems of equilibrium (two and three dimensions) of structural and mechanical force systems. Trusses, frames and machines. Friction problems. Centroids and moments of inertia.

CSU-MEC 202 Dynamics (03)

Kinematics and kinetics of particles and rigid bodies, kinetics of rigid bodies in three dimension, Newton's laws, work and energy, impulse and momentum. Solution of problems using vector approach.

CSU-CIE 260 Engineering Surveying (02)

Basis of plane surveying, Distance measurement using tapes and EDM, Leveling, Measurement of angles and directions, Traverse, Topographic survey and computations, Application in highway curves, Construction surveys and land surveys, Principle of stadia, Global Positioning System (GPS), Geographic Information System (GIS).

CSU-HYD 201 Engineering Hydraulics (02)

Incompressible fluid flow in closed conduits and open channels. Hydrostatics, energy and hydraulic grade lines. Momentum, friction formulas, pipelines, uniform flow and water surface profiles. Design of pipes and open channels. Computer solutions.

CSU-HYD 201L Engineering Hydraulics Laboratory (01)

Introduction to experimental hydraulics in open channel and pipe flows, including measurements of discharge, depth, velocity, force and friction coefficients. Hydraulic model laws and report writing.

CSU-EE 341 Electric Circuits (3)

Ohm's and Kirchhoff's laws; mesh and nodal analysis, superposition; Thevenin and Norton theorems; RL and RC transients; phasors and steady state sinusoidal analysis; response as a function of frequency; current, voltage and power relationships; polyphase circuits.

CSU-ARC 396 Architecture of Civil and Industrial Building

History of architectural design. Systems-based design process: aesthetic, functional, environmental and behavioral aspects. Urban planning and design. Case studies. Architectural design project to the standards of professional practice.

CSU-MEC 301 Mechanics of Materials (03)

tress and deformation analysis for axial load, torsion, flexure, and combined forces. Analysis of simple statically indeterminate structures. Deflection and stress analysis of beams. Stability of columns. Strain energy and ultimate resistance. Interactive relationships between analysis and design.

CSU-MEC 316 Soil Mechanics (03)

Soil properties and soil action as related to problems encountered in engineering structures; consolidation, shear strength, stability and lateral earth pressures.

CSU-MEC 306L Soil Mechanics Laboratory (01)

Behavior and properties of soils, Application to foundation and slope design, liquefaction, and seepage.

CSU-MEC 306 Structural Analysis 1, 2 (03)

Forces and displacements in statically determinate and indeterminate elastic structures by force and displacement methods. Approximate methods of analysis.

Matrix formulation of structural analysis and computer applications. Introduction to structural design.

CSU-MEC 306L Structural Analysis Laboratory (01)

Principles of model analysis and similitude. Influence lines for reactive and internal forces; generalized displacements of statically indeterminate structures. Nonprismatic members.

CSU-CIE 376 Reinforced Concrete Design (03)

Design for bending, shear, axial force, torsion and combined loading. Beam, columns, slab and foundation design for ultimate strength and serviceability requirements. Prestressed concrete design. Safety, reliability and cost considerations. Design project conforming to latest ACI code. Professional computer program.

CSU-CIE 323 Foundation Design (03)

Footings and retaining walls. Mat and piled foundations for structures. Design project to standards of professional practice using latest codes and standards. Consideration for safety, reliability and cost.

CSU-CIE 378 Structural Steel Design (03)

Design for bending, torsion, shear, axial forces, combined loadings. Design of built-up girders, composite construction. Design of shear and moment connections. Design project using professional practice standards. LRFD method. Safety, reliability and cost considerations. Professional computer program.

CIE-477 Prestressed Concrete Design (03)

Prestressed concrete design and analysis for conventional and lateral loading. Design of reinforced and prestressed structural and architectural elements. Safety and economy. Connection design for earthquake and wind loading. Design projects using professional practice standards including latest codes.

CSU-CIE 496 CDIO Project 3 (01)

Behavior of prestressed and reinforced concrete members subjected to the different types of loadings. Observation of elastic and ultimate strength behavior, deflection crack propagation and collapse.

CSU-CIE 441 Construction Project Management (03)

Overview of construction project management; construction scheduling fundamentals; bar charts, CPM, PERT; schedule control: manual vs. computer systems, reports, schedule maintenance; cost control: code of accounts, control base, budgets, forecasting, reports, computer systems; applications in construction projects.

CSU-CIE 403 Engineering Construction (03)

Engineering construction planning equipment and methods. Construction management. Critical path method. Construction of buildings, bridges, highways, foundations and dams. Consideration for safety and reliability.

CSU-CIE 447 - Final Projects (5)

Prerequisites: classified graduate status and formal approval of Civil Engineering Graduate Committee, graduate adviser and department head. May be repeated for a maximum of 6 units. One or more sections may be offered in any online format.

Course Repeat Policy

An undergraduate Civil Engineering degree requires 168 semester credit hours for graduation. In order to ensure that students remain on track for a timely graduation, the program has implemented a course repeat policy as described below. For the purposes of this policy, Civil Engineering majors must earn a grade of "D" or better in all classes listed in: common program prerequisites, engineering common core, required courses in the major and restricted electives. Withdrawals and grade forgiveness are considered non-progression, and are subject to the course repeat policy.

Advising

Academic advising by designated International School advisors is provided to maintain the standards of the program and to guide each student. The purpose of academic advising is to assist the student in his/her academic progression throughout the program. Additional information can be found at https://mydtu.duytan.edu.vn.

Academic advisors also provide the following services for students:

- Academic advising and program information for current and potentia
- Referral to faculty mentors and campus resources for career planning
- Communication regarding internship opportunities
- Orientation for students applying for admission to the school
- Assistance with issues related to registration and academic standing
- Evaluation of academic transcripts and articulation of transfer credits
- Maintenance of academic advising records and degree audits
- Certification of graduation

Students are expected to take primary responsibility to meet with their academic advisor on a regular basis to insure completion of all requirements for graduation.

In addition to academic advising, all students are assigned faculty mentor. Students are required to meet with their faculty mentor prior to registering for classes each semester starting in the term the student is enrolled. Faculty mentors provide career specific guidance including:

- Service Learning Opportunities
- How to Establish relationships with Faculty and Industry

- Internships
- Technical Electives
- Undergraduate Research & Lab Work
- Career Goals
- Plans after Graduation
    - o Graduate School
    - o Job Search

Appeal Process - Grades

In accordance with University guidelines, students may appeal the following:

- Grades or other academic action taken by an instructor.
- Grades resulting from an instructor's:
    - Alleged deviation from established and announced grading policy.
    - Alleged errors in application of grading procedures.
    - Alleged lowering of grades for non-academic reasons.

Attendance and Punctuality

An expectation of professional practice is that students attend all classes, laboratory experiences, class demonstrations, field trips and other academic experiences. Responsibility and accountability for meeting course obligations is a fundamental component of professionalism.

In Classroom:

Students assume responsibility for attending all classes, however in the event a class period is missed, the student is responsible for all material covered and all announcements. Further, punctuality and attentiveness is courteous behavior exemplified by:

- Being on time and remaining for the entire class period.
- Remaining in the classroom until a break or end of the period
- Turning off cell phone and other communication devices.

Civility

The learning environment (classroom, laboratories, field trips, hallways, offices etc.) in which students gain knowledge, values, and competencies is co-created by all who enter into this environment. Students in the International School conform to, and express themselves in conventional patterns of social behavior. Such behavior is consistently expressed through social politeness, keen sensitivity, respect, and courteous treatment to others.

Student Admissions

The admission process at Duy Tan University follows the college admission regulations of the Ministry of Education & Training of Vietnam (MoET) as well as the admission requirements of Duy Tan University. It should be noted that the college admission regulations of Vietnam can be revised from one year to another. All Duy Tan University (DTU)'s Management Information System (MIS) freshman students are admitted and enrolled in the Undergraduate University Level (UUL) and the International School (IS).

The following admission requirements must be met by domestic students:

1. Passing the High School Graduation Examination held by the Ministry of Education & Training of Vietnam;
2. Achieving either of:

a. The minimum passing grade for National College Entrance from the High School Graduation Examination as required by the Ministry of Education & Training of Vietnam, or

b. The minimum of 18 out of 30 grade points for three high-school courses of the National College Entrance course sets for certain undergraduate disciplines as specified by the Ministry of Education & Training of Vietnam;

3. Registering with Duy Tan University before October 31st of the intake year and while its annual freshman student quota is still available.

The following admission requirements must be met by international students:

1. Achieving cumulative high-school grade point average (GPA) of 2.5 or higher on a 4.0 scale;
2. Having no criminal history or records as certified by the home country.

Program Delivery Modes

Programs of International School are offered in the day mode with courses offered in traditional lecture and laboratory formats. The classes take place from 7:00 am to 5:00 pm during the weekdays. Occasionally, some courses are offered in the evening from 5:45 pm to 9:00 pm. The academic calendar at Duy Tan University comprises of two 16-week main semesters, two midterm exams and 2-week final exams in addition to the summer course (one 6-week and one final exam). Students are allowed to enroll from 16 to 20 credits for the main semester and a maximum of 8 credits for the summer semester. Typically, students take 5-7 courses per semester. No significant distance-learning or web-based component makes up the program even though e-learning resources are widely used in a blended mode to support traditional course format. Students are required to carry out a Final Project after internship.

Graduation Requirements

The graduation requirements for the Degree of the Civil Engineering is:

- Successful completion of a minimum of 160 credit hours. The specific number of credit hours needed for the Degree of the Civil Engineering program is currently 168 credit hours. The number of credit hours required for the CE programs are higher than that of other programs in DTU because of additional English training requirement for students in the International School with additional English for IT/IS (International School) courses of CSU-ENG 130, CSU-ENG 230, and CSU-ENG 330.
- Minimum Cumulative Grade Point Average (GPA) of 2.0 (out of 4.0).
- Minimum Cumulative GPA for the Program's Core Requirement and Concentration Courses of 2.5 (out of 4.0).
- Attitude & Discipline Assessment of average rating or above: i.e., Students did not commit serious academic and/or social violations to cause serious disciplinary actions.

Student Advising

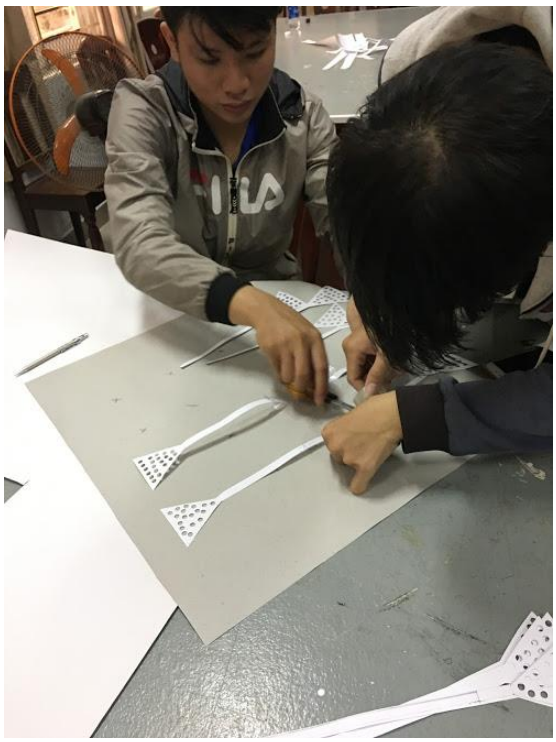
For each programs of International School are required to be advised by a departmental advisor each semester. Consult the departmental bulletin boards or Web site for advising hours. New and transfer students must also be advised prior to the beginning of the semester in which they first enroll.

COURSE HIGHLIGHTS

CIDO 296 Project

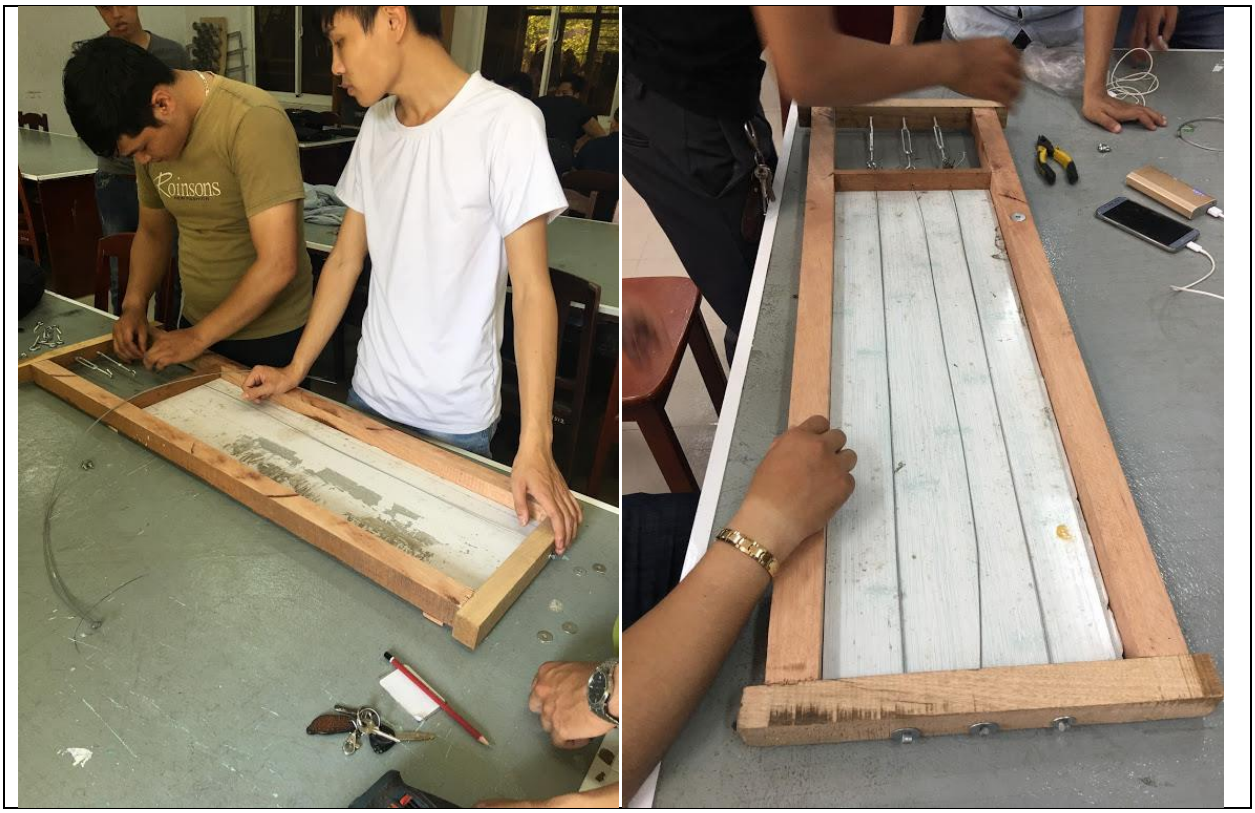

MỘT SỐ HÌNH ẢNH VỀ HỢP TÁC
GIỮA ĐẠI HỌC DUY TÂN VÀ TẬP ĐOÀN PHÚC LỢI XÃ HỘI SEIREI, NHẬT BẢN

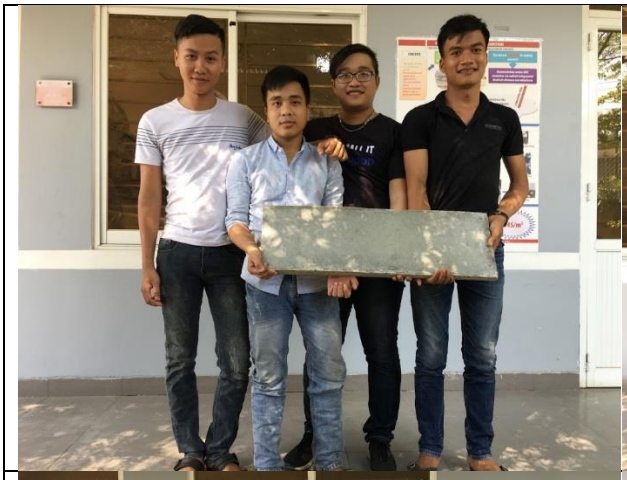
CIDO 396 Project

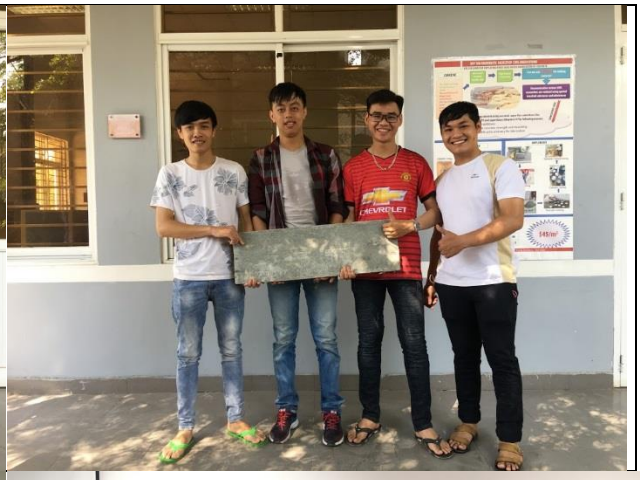


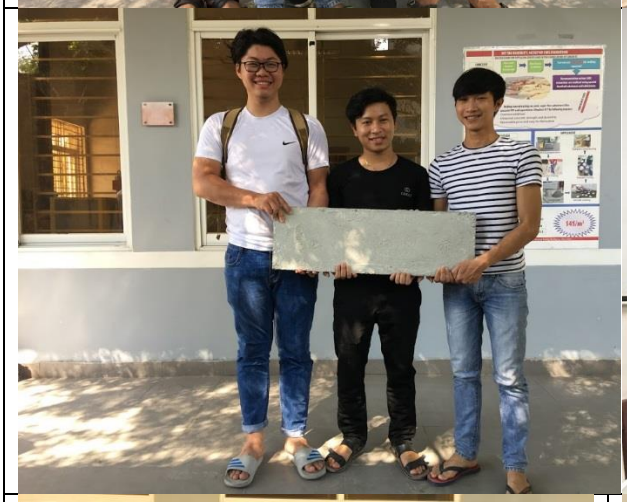

$150

CIDO 496 Project










DUY TÂN
INTERNATIONAL SCHOOL
FULLERTON
Group #3


DUY TÂN
INTERNATIONAL SCHOOL
FULLERTON

The “O Thuoc Bridge Construction” Competition

The “Treasure Hunting” Competition

	 Đội vô địch cuộc thi Thực hành Trắc địa "Truy tìm kho báu 2017" TRUY TÌM KHO BÁU 2017

Career Internship

Introducing and Demonstrating Earthquake Engineering Research in Schools (IDEERS) at Taiwan