LEARNING PROGRESS OF STUDENTS

1. Statistical values for graduation, drop-out and incomplete students:

Graduation consideration is carried out by the Training Office by checking the completion of the training program, and the graduation decision is issued by the Management Board.

Statistical values of graduated, dropped-out and in-completed students for the 6-year period (2013-2018) of the Department of Oceanology, Meteorology, and Hydrology are listed in Table 1 and shown in Figure 1. The amounts of graduated students for the 6-year period are about 31.4% on average and these values, which range from 18.9% to 45.3%, are not significantly variable over this period (Table. 1). Due to the changes of enrollment regulations (level of English standard) from the Ministry of Education, the number dropped-out and uncompleted students were higher than the average value of graduated students as they did not meet the requirements of English Standard. The ratio of dropped-out students accounts for 45.7% of the total registered students (Figure 1); whereas some of uncompleted students (account for about 22%), who finished all educational program except having the English Standard Certificated to meet the requirement for graduation. There is also a minor reason for high number of dropped-out students as mostly they realized that the Oceanology program was not their wishes. We also have some statistical values (Table 1, Figure 2) showing the number of graduated students within 4-year period and longer 4-year period.

Table 1: Graduation and dropout rates of students

Values and percentage	**Course 2013**	**Course 2014**	**Course 2015**	**Course 2016**	**Course 2017**	**Course 2018**
Registered students	64	90	87	51	37	14
Number graduated students	29	36	25	10	7	5
Percentage of graduated (%)	45.3	40.0	28.7	19.6	18.9	35.7
Number of graduated in 4-year period	18	13	12	3	0	3
Percentage of graduated in 4-year period (%)	28.1	14.4	13.8	5.9	0.0	21.4
Number of graduated > 4-year period	11	23	13	7	7	2
Percentage of graduated > 4-year period (%)	17.2	25.6	14.9	13.7	18.9	14.3
Number of drop-out students	33	45	47	27	19	2
Percentage drop-out students (%)	51.6	50.0	54.0	52.9	51.4	14.3
Number of uncomplete students	2	9	15	14	11	7
Percentage of uncomplete students (%)	3.1	10.0	17.2	27.5	29.7	50.0

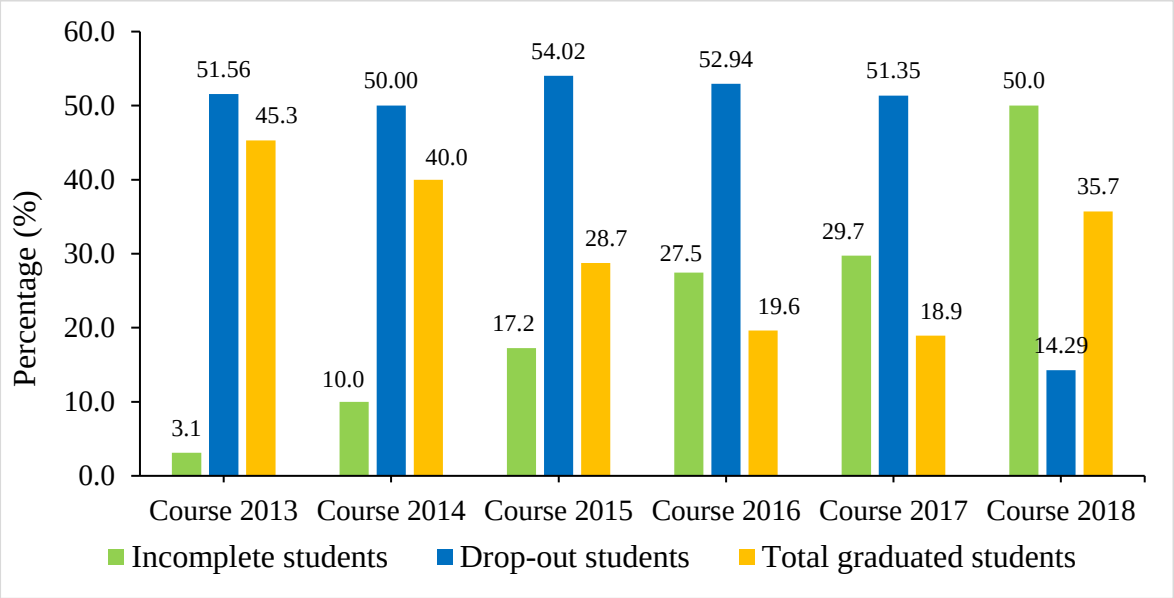

Figure 1: Statistical values of graduation, uncomplete and dropout rates of students

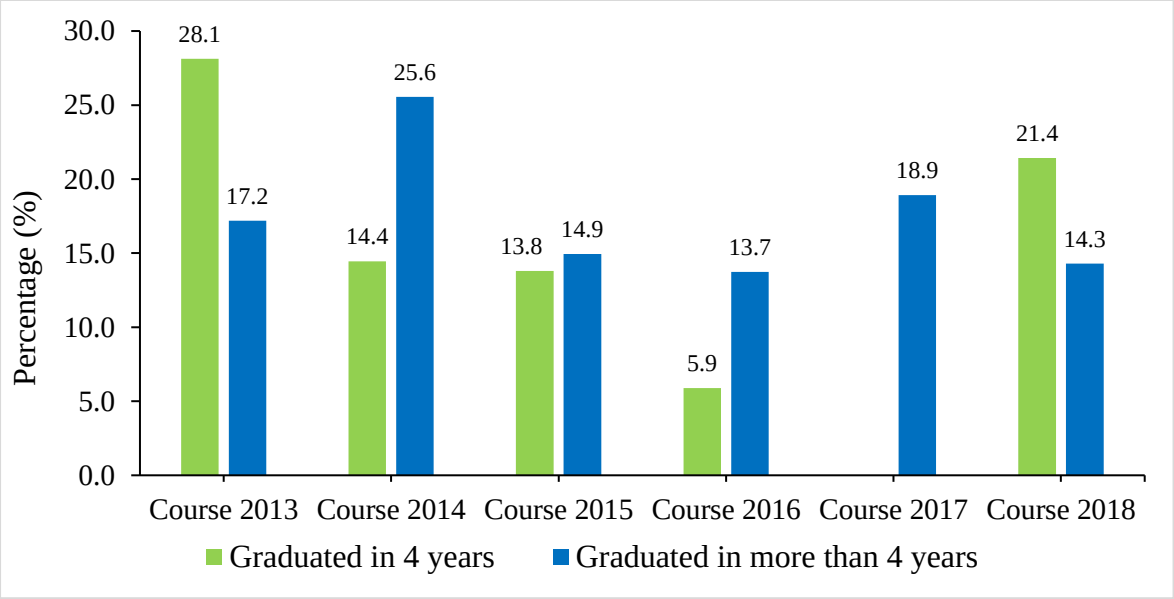

Figure 2: The number of students graduated within 4-year period and longer 4-year period.

2. Statistical data of students' studying progress in the period 2013-2018

For qualification of graduated students, based on the averaged grades for all topics within a semester, there are six levels including Excellent, very good, good, fairly good, average, and poor. Detailed values for all semesters are shown in Table 2-7. These values for six-academic years indicate that the qualifications of students are largely improved from the first-year semesters to the last semester of their study. When the students are familiar with the education

methods from the university, which are different basically from the high school, they well-adjusted and improved their learning techniques to archive their learning outcomes and to get higher grades. At the first semester, the percentages of Excellent students were almost zero, on the other hand, there were no students got the excellent level during this period. However, at the last semester, the number of students reaching the Excellent level increased up to 55%.

Table 2: Statistical values for students' learning progress for academic year 2013

Semester	2/2017-2018	1/2017-2018	2/2016-2017	1/2016-2017	2/2015-2016	1/2015-2016	2/2014-2015	1/2014-2015
Excellent	55.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Very good	2.5%	4.9%	17.1%	2.4%	11.9%	2.3%	0.0%	0.0%
Good	7.5%	43.9%	51.2%	14.6%	31.0%	27.9%	10.0%	7.8%
Fairly good	15.0%	41.5%	29.3%	63.4%	45.2%	39.5%	34.0%	25.0%
Average	7.5%	7.3%	2.4%	17.1%	9.5%	18.6%	32.0%	31.3%
Poor	12.5%	2.4%	0.0%	2.4%	2.4%	11.6%	24.0%	35.9%

Table 3: Statistical values for students' learning progress for academic year 2014

Semester	2/2017-2018	1/2017-2018	2/2016-2017	1/2016-2017	2/2015-2016	1/2015-2016	2/2014-2015	1/2014-2015
Excellent	40.0%	0.0%	1.7%	0.0%	1.6%	0.0%	0.0%	0.0%
Very good	23.6%	12.7%	6.7%	6.6%	1.6%	4.4%	0.0%	1.1%
Good	16.4%	43.6%	33.3%	26.2%	29.7%	11.8%	17.4%	3.3%
Fairly good	9.1%	43.6%	45.0%	37.7%	35.9%	42.6%	36.0%	32.2%
Average	5.5%	0.0%	5.0%	16.4%	21.9%	25.0%	15.1%	38.9%
Poor	5.5%	0.0%	8.3%	13.1%	9.4%	16.2%	31.4%	24.4%

Table 4: Statistical values for students' learning progress for academic year 2015

Semester	2/2017-2018	1/2017-2018	2/2016-2017	1/2016-2017	2/2015-2016	1/2015-2016	2/2014-2015	1/2014-2015
Excellent	39.5%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	1.1%
Very good	9.3%	17.8%	41.3%	8.5%	6.0%	3.4%	2.6%	2.3%
Good	11.6%	53.3%	41.3%	40.4%	22.0%	6.9%	14.3%	5.7%
Fairly good	25.6%	26.7%	10.9%	46.8%	42.0%	44.8%	35.1%	34.5%
Average	7.0%	2.2%	2.2%	2.1%	22.0%	20.7%	16.9%	21.8%
Poor	7.0%	0.0%	2.2%	2.1%	8.0%	24.1%	31.2%	34.5%

Table 5: Statistical values for students' learning progress for academic year 2016

Semester	2/2017-2018	1/2017-2018	2/2016-2017	1/2016-2017	2/2015-2016	1/2015-2016	2/2014-2015	1/2014-2015
Excellent	10.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Very good	5.3%	3.8%	0.0%	3.4%	0.0%	0.0%	0.0%	3.9%
Good	26.3%	46.2%	35.7%	17.2%	19.4%	11.8%	2.0%	33.3%
Fairly good	15.8%	38.5%	32.1%	55.2%	48.4%	50.0%	18.4%	17.6%
Average	21.1%	3.8%	17.9%	17.2%	16.1%	20.6%	32.7%	7.8%
Poor	21.1%	7.7%	14.3%	6.9%	16.1%	17.6%	46.9%	37.3%

Table 6: Statistical values for students' learning progress for academic year 2017

Semester	2/2017-2018	1/2017-2018	2/2016-2017	1/2016-2017	2/2015-2016	1/2015-2016	2/2014-2015	1/2014-2015
Excellent	10.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Very good	5.3%	3.8%	0.0%	3.4%	0.0%	0.0%	0.0%	3.9%
Good	26.3%	46.2%	35.7%	17.2%	19.4%	11.8%	2.0%	33.3%
Fairly good	15.8%	38.5%	32.1%	55.2%	48.4%	50.0%	18.4%	17.6%
Average	21.1%	3.8%	17.9%	17.2%	16.1%	20.6%	32.7%	7.8%
Poor	21.1%	7.7%	14.3%	6.9%	16.1%	17.6%	46.9%	37.3%

Table 7: Statistical values for students' learning progress for academic year 2018

Semester	2/2017-2018	1/2017-2018	2/2016-2017	1/2016-2017	2/2015-2016	1/2015-2016	2/2014-2015	1/2014-2015
Excellent	46.2%	7.7%	0.0%	23.1%	0.0%	0.0%	0.0%	0.0%
Very good	7.7%	38.5%	38.5%	7.7%	7.7%	7.7%	0.0%	0.0%
Good	23.1%	46.2%	46.2%	23.1%	23.1%	15.4%	14.3%	14.3%
Fairly good	7.7%	7.7%	7.7%	38.5%	30.8%	38.5%	42.9%	28.6%
Average	7.7%	0.0%	0.0%	0.0%	23.1%	0.0%	21.4%	28.6%
Poor	7.7%	0.0%	7.7%	7.7%	15.4%	38.5%	21.4%	28.6%

3. Graduation duration

The credit-based training program allows students to shorten or extend their study duration within 3-8 years (6-16 semesters), excluding any downtime to complete the program. Graduation consideration and graduation data calculation is done by the Training Office. The statistical data of students' graduation duration for the period 2013-2018 (consisting of six-academic years) are presented in Table 8. The duration values are counted based on the period from the first day of enrollment to the date when students finish their training course and apply for the graduation verification and certification. Therefore, these values are not calculated based on semesters or rounded years. The average value of graduation duration for six-academic years is 4.75 years, however, most of graduation durations for every single academic year is 4.9 years or about 10 semesters. Nevertheless, average grades of students over the six-academic years (2013-2017) are increase. In particularly, the average values of both grade and graduation duration of all students in the last academic year in 2018 reach the highest value for this period of investigation.

Table 8. Mean graduation grade and duration for the academic year from 2013-2018

Course	Mean GRADE	Mean duration (years)
2013	6.95	4.5
2014	6.89	4.9
2015	7.15	4.9
2016	6.92	5
2017	7.11	4.9
2018	7.49	4.3

4. Participation of students in scientific research and publications

About the students actively participating in scientific research, our data for recent period 2019-2022 involve the total value of 20 oral presentations at conferences, which were mostly presented by students. Based on that research topics, five articles have published in international and Vietnamese peer-reviewed journals (Table 9-10). Moreover, most of students' bachelor theses are based on the data from research projects which were carried out by supervisors. Therefore, at the final stages of their study, students can learn how to carry out a scientific research and write a scientific report/thesis efficiently.

Table. 9. Students (names in bold) participating in international and Vietnamese peer-review publications

No	Article title	Journal	Authors (students in bold)
1	Seasonal Variation Impact on Cassava Planting Crops: A Case Study in Phu Yen Province, Vietnam	Transylvanian Review, Vol. 27 No. 42, 2019	Truong An DANG, **Ngoc Huyen NGUYEN**
2	Assessment of improving irrigation efficiency for tomatoes planted in greenhouses in Lam Dong Province, Vietnam	Journal of Agrometeorology 22 (1): 52-55 (2020)	Truong An, Dang and **My Linh Thi Ngo**
3	Monsoonal sediment transport along the subaqueous Mekong Delta: An analysis of surface sediment grain-size changes	Ocean Systems Engineering, Volume 12 Issue 4, 2022	Thanh C. Nguyen, An T. Dang and **Khuong N.T. Tran**
4	Application of remote sensing and GIS to monitor the urbanization process in Ho Chi Minh City in the period 1989–2019	Journal of Hydrometeorology 2020, 720	Lam Van Hao, **Le Thi Pha Mi**
5	Estimated gas emissions from straw burning in fields in the Mekong Delta region	Journal of Hydrometeorology 2022, 736	Tran Xuan Dung, **Nguyen Huynh Thy**
6	Using Chlorophyll-a concentration and sea surface temperature from satellite images to	Journal of Hydrometeorology 2022, 739	Bui Thi Ngoc Oanh, **Tran Kiem Khanh Linh**

	evaluate CO2 distribution in water in Vietnam's sea		

Table 10. Students participating in the bi-annual conferences

No	Presentation title	Year	Participating students (in bold)
1	Modeling results of critical wave heights impacting on coral reef	2020	**Nguyen Thi To Van**, Vo Luong Hong Phuoc
2	Analysis of the effects of physical factors on coral reef ecosystem	2020	**Phan Thi Thanh Doan**, Vo Luong Hong Phuoc
3	Analysis and prediction of water level oscillation at Cau Da station, Nha Trang	2020	Nguyen Hoang Phong, **Tran Ngoc My**
4	Monsoonal sediment transport along the subaqueous Mekong Delta: An analysis of surface sediment grain-size changes	2020	Nguyen Cong Thanh, **Tran Thi Ngoc Khuong**, Dang Truong An
5	Using of Blackman-Tukey and Fast Fourier Transform (FFT) in an analysis of wind-waves.	2020	**Vo Thanh Tuyet Hong**, Vo Luong Hong Phuoc
6	The relationships between chlorophyll concentration with temperature, turbidity and dissolve oxygen in water	2020	**Pham Tran Minh Tho**, Vo Luong Hong Phuoc
7	A pilot assessment of Dissolved Oxygen and its influencing agents at the Dong Tranh River Mouth, Can Gio.	2020	**Do Hoang Minh Cuong**, Bui Thi Ngoc Oanh
8	Machine learning algorithm application for forecasting water level in the upper part of the Mekong delta	2022	**Dang Le Khoa**, Dang Truong An and Nguyen Cong Thanh.
9	Application of remote sensing and numerical modeling to estimate gases emission from burning rice straws in An Giang	2022	**Duong My Hoa**, Tran Xuan Dung
10	Application of remote sensing and GIS to monitor coastal mangrove forest change in Cu lao Dung District, Soc Trang Province	2022	Lam Van Hao, **Nguyen Van Nam**
11	Assessment of air quality using AQI to PM2.5 in Da Nang Province.	2022	**Nguyen Le Thao Linh**, Le Nguyen Hoa Tien
12	Using Metilis model to simulate air quality in Da Nang Province	2022	**Nguyen Le Thao Linh**, Le Nguyen Hoa Tien
13	Shoreline changes in Ca Mau from analyzing of satellite images and GIS	2022	**Nguyen Huu Sang**, Nguyen Tien Thanh
14	Analysis of meteorological data of Vinh Long Province from 2001 to 2020	2022	Nguyen Hoang Phong, **Phan Thi Kim Thanh**
15	Using Cropwat to estimate the water needed for cabbage vegetable.	2022	**Nguyen Vu Doan Thao**, Tran Xuan Dung
16	Programing the early warning model of rice crop insect pests based on the effect of weather parameters	2022	**Huynh Thi Huyen Tran**, Vo Luong Hong Phuoc
17	Calculation of irrigation requirement for Thai jackfruit trees in Tien Giang Province, Vietnam	2022	**Nguyen Thai Ho Phat**, Tran Nguyen Ha Trang, Vo Luong Hong Phuoc
18	Effects of meteo-hydrological factors on off-season rice yield in the An Giang province	2022	**Le Mai Anh**, Tran Nguyen Ha Trang, Vo Luong Hong Phuoc
19	Studying the chlorophyll concentration at hydrological station in Cho Lach (Ben Tre) by using the multi-exciter	2022	**Pham Van Phung**, Vo Luong Hong Phuoc

5. **Remarkable of our alumni**

From our former student's data recorded since 2005, some alumni have archived highest positions in the research institutes or companies which they have been working (Table 11). The data reveal a largely variety of business which the alumni have been working, and it indicates that the

graduated students can adapt to working fields which might not always closely related to oceanology.

Table 11. Some of alumni are working and managers at some domestic agencies and organisations

Alumni of year	Full name	Organisation	Position
2005	Mai Duc Tran	Dai Phat design survey consulting and trading services Co., Ltd	Director
2007	Pham Quoc Hai	Tan Son Nhat Aviation Meteorological Center - Aviation Meteorological Center - Vietnam Flight Management Corporation	Forecasting team leader
2007	Phan Nhat Bang	Tan Son Nhat Aviation Meteorological Center - Aviation Meteorological Center - Vietnam Flight Management Corporation	Forecasting team leader
2009	Dang Hoang Lam	Ben Tre Hydrometeorological Station	Director
2009	Huynh Minh Nhan	Bac Lieu Hydrometeorological Station	Vice Director
2009	Nguyen Le Giau	Thinh Vuong Real Estate Company	Director
2009	Nguyen Duy Khang	Viet Map Application Joint Stock Company (VIETMAP)	Project manager - Head of digital map sales department
2012	Nguyen Thi Nga	Digital Era Software Company Limited	Head of Human Resources Management Department
2012	Hoang Dong Phương	Coca-Cola Company Limited	Sales management team leader
2012	Nguyen Minh Quang	Green & Happy Life Company (GHL) Vietnam	Director of Thi Nghe Branch
2015	Huynh Thi Phương Anh	Teky Holdings Young Technology & Innovation Joint Stock Company	Head of Southern Operations Department
2015	Tran Huynh Long	Novatech group	Head of Product Ownership

In addition, after earning their bachelor's degree, the alumni can study further for master and doctoral programs. Since the academic year of 2005, there is a total of 30 alumni who finished master programs in VNU-HCMUS and 4 alumni are learning at doctoral level. Some of alumni have been studying abroad for master and doctoral programs (Table 12) as well and some of them receiving the lecturing positions and universities abroad or in Vietnam.

Table 12. Some of alumni have finished or are studying abroad for doctoral programs

No	Alumni of year	Name	University
1	2005	Bui Thi Ngoc Oanh	University of Hokkaido (Japan)
2	2006	Bui Xuan Hien	Academia Sinica (Taiwan)

3	2006	Le Tran Duy Phuc	University of Tasmania (Australia)
4	2007	Ngo Thi Mai Han	Academia Sinica (Taiwan)
5	2009	Do Thi Phuong Nghi	UCSD - University of California San Diego (USA)
6	2010	Le Truong Vinh	National Central University (Taiwan)
7	2010	Pham Bao Quoc	National Central University (Taiwan)
8	2010	Vuong Thi Hong Nhi	National Central University (Taiwan)
9	2015	Dang Dong Pha	National Central University (Taiwan)
10	2015	Nguyen Thi To Van	University of Twente (The Netherlands)