University of Tsukuba

Graduate School of Life and Environmental Sciences

and

Universiti Teknologi Malaysia

Malaysia-Japan International Institute of Technology

Joint Master's Degree Program in Sustainability and Environmental Sciences

External Assessment Sheet

Term of the Assessment

September 2017 – March 2021

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Purpose and Background

In 2014, the University of Tsukuba (hereinafter referred to as the "UT") and Universiti Teknologi Malaysia (hereinafter referred to as the "UTM") received authorization from each government to establish a joint degree program (hereinafter referred to as "JDP"). In 2017, the Joint Master's Program in Sustainability and Environmental Sciences started, and it has been operated in strong cooperation between UT and UTM. Both universities, through this JDP, aim for training students to be international leaders and specialized persons who can solve the recent environmental issues with excellent scientific knowledge and techniques, as well as with skills of communication and implementation.

The JDP focuses on fostering professionals who understand and analyze various issues based on knowledge and techniques acquired, observe problems in practice, and logically explain and solve them. Since the graduates of this program can obtain cross-disciplinary and wide views beyond specialized fields, problem-solving technology and the ability to understand various problems, we believe that they can propose novel systems to be actually implemented in a society and take a leadership in the international activities. The UT and UTM have frankly discussed the process and achievement of the JDP and performed possible modification every year. These activities strengthened the relationship between the two universities and two countries, contributing to the development of human resources who will be a bridge not only between two nations but also among various scientific fields.

Since the activity of the JDP should be evaluated three years after its establishment as an interim assessment, the external evaluators were selected based on the recommendations of the two universities. A meeting for the external assessment was organized on 18 February 2021. This report summarizes the results of the self-evaluation and the external assessment, which will be announced on the website of each university.

External Assessment Method

Four external evaluators assessed the status of project implementation/achievement and made comments on project achievements that are organized into eight assessment categories.

Assessment criteria is the same as the self-assessment report for the four categories, as shown below.

Ⅳ	Achieved more than was planned.
Ⅲ	Plan was achieved.
Ⅱ	Plan was not achieved sufficiently.
Ⅰ	Plan was not achieved.

1. Mechanism for implementation of JD Program

Assessment Category

1-1. Joint Implementation Structure

Criteria	• Adequately address the social demands for the JD program • Adequately address the educational requirements for the JD program	
Self-assessment	Rating III	• The JD Program was established in collaboration with the MJIIT, UTM to appropriately respond to social demands and educational requirements. • The two university have a different background and the joint activity between them may contribute to expand the new fields of the Environmental Sciences.
External-review	Rating (Please circle)	IV · ⬚III⬚ · II · I (A) rated III/(B) rated IV /(C) rated III/(D) rated III
	Comments	**(A)** It is a good combination of science school (Tsukuba) and engineering school (UTM-MJIIT) to deal with environmental issues for sustainable development. Mutual collaboration and interaction will stimulate each other with different backgrounds. **(B)** I agree that the collaboration between Tsukuba University and the MJIIT, UTM would contribute to a broader scope and sharing different environmental scenarios and issues found in both countries, Japan and Malaysia. **(C)** The JD Program was designed to develop global leaders who can lead activities to solve pressing global issues particularly in the sustainability and environmental sciences, by bringing together two universities which have different strengths and advantages. The JD Program therefore does address the social demands and the educational requirements adequately. **(D)** I feel that this program is exactly about developing the practitioners of SDGs; we can expect it to be the program where students can cultivate the ideas to

	change the current social system to the one which overlooks the TBL (Triple bottom line) from the view point of environmental science.

1-2. Policies

Criteria		· Admissions policy is established and published to ensure that candidates retain the qualities that enable them to reach the diploma policy of the JD program. · Curriculum policy is clearly indicated and published based on the educational objectives to accomplish the diploma policy. · Diploma policy is determined to accomplish social needs and educational requirements and based on the educational objectives and published · The completion of the program is approved in a fair and strict manner.
Self-assessment	Rating III	· The Diploma policy, curriculum policy and admissions policy have been appropriately, firmly, and clearly indicated and published on the website and so on. · All courses have been provided according to the academic curricula based on the Curriculum policy. · Entrance examinations have been jointly conducted based on the Admissions policy.
External-review	Rating (Please circle)	IV · ⬚III⬚ · II · I
		(A) rated III/ (B) rated IV /(C) rated III/(D) rated III
	Comments	**(A)** Though there is a half-year (5-month) gap in terms of semesters between Japan and Malaysia, the education is well managed. Professors and students in both universities are well adjusted. **(B)**The Diploma policy, curriculum policy and admissions policy have been appropriately, firmly, and clearly indicated and published on the website and there is no issue on this matter. **(C)**The diploma policy is determined to accomplish social needs and educational requirements and based on the educational objectives and published on the website. The curriculum policy is clearly indicated and published based on the educational objectives to accomplish the diploma policy. The admissions policy is established and published to ensure that candidates retain the qualities that enable

| | them to reach the diploma policy.
(D) By publicizing the policy which is fair and strict, we can expect that this program to attract the attention of students with high ambitions and also to strengthen their motivations. |

Assessment Category

1-3. Quality assurance system

Criteria	Self-evaluation is jointly implemented, and the results are published and used to improve the educational activities. External assessment is jointly implemented, and the results are published and used to improve the educational activities.	
Self-assessment	Rating III	Self-evaluation was jointly conducted, and the results were published and used to improve the educational activities. The feedback from the external assessment will be published and shared with faculty members on faculty meeting. The information on the program is published on the website of the program and University.
External-review	Rating (Please circle)	IV　・　III　・　II　・　I (A) rated III/ (B) rated IV /(C) rated III/(D) rated III
	Comments	**(A)** So far, only three years passed. Evaluation is not easy. Self-evaluation every year is of course useful and important. **(B)**University have carried self-evaluation and external assessment are conducted for any future improvement, if any. These measures would ensure the standard of the program is maintained. **(C)**Self-evaluation was jointly implemented, and the results are published and used to improve the educational activities. External assessment is jointly implemented, and the results will be published and used to improve the JD Program. (D) I feel that the teachers who operate this program are always trying to improve the quality of the program in a serious and humble manner.

2. Operation of JD Program

2-1. Progress of JD Program operation

Criteria	The joint program is operated properly as planned.	
Self-assessment	Rating	• The joint implementation structure has been very well established until now.
	III	• Usual communications between the two universities have been well carried out by the regular face to face meeting, web meeting, and the exchange of the emails at appropriate timings.
External-review	Rating (Please circle)	IV ・ III ・ II ・ I (A) rated III/ (B) rated IV/(C) rated IV/(D) rated III
	Comments	**(A)**Two universities (UT and UTM-MJIIT) are well cooperated. I guess there is a difficulty for students to move between Japan and Malaysia because of COVID-19. On-line courses are helping each other. **(B)** It is clearly seen that the joint implementation structure has been very well established. It could be served as a role model for other programs and university who seek for similar model of join degree program within universities. The success stories of this program can provide information and knowledge in the join-degree program model. **(C)** The JD Program has been well designed and established with careful consideration, although it is not easy to design a JD program between two universities with different academic calendars and systems. The JD Program has been well managed and operated based on close communications between the two universities, although it is not easy to operate this complexly designed program.

	(D) Because of the fact that the web meetings are becoming more and more usual in the current covid-19 situation, I feel that the international joint programs like this can make the most of the current trend which comes with a favorable environment and recognition for the international communications.

2-2. Fulfillment of student capacity

Criteria		• Entrance examination is conducted in accordance with the admissions policy. • The number of students enrolled meets the enrollment capacity.
Self-assessment	Rating II	• Entrance examination was conducted in accordance with the admissions policy by application documents which were transcript to confirm academic knowledge, research plan and English score to confirm English writing/reading skills and by interview to examine motivation, knowledge for research, and English speaking. • The number of students enrolled did not meet the enrollment capacity, but student was gotten in every year on both universities.
External-review	Rating (Please circle)	IV · III · II · I (A) rated II/ (B) rated III /(C) rated II/(D) rated II
	Comments	**(A)** The procedure of the selection is relevant. The joint entrance examination implementation committees of both universities are well operated. The problem is the number of students enrolled. Encouragement to students to join this JD program is necessary. Submission of an English score makes trouble sometimes even in other universities. So, change of the system to examine student's English proficiency during oral examination is understandable. **(B)** Entrance examination was conducted in accordance with the admissions policy and it is well implemented and documented. The number of student enrollment shows a sign of increasing trend, this is indeed very encouraging. University should have more promotion of the course and allow alumni stories to be told in the program webpage or

the course brochure to attract the interest of potential candidates.

(C) Entrance examination was conducted in accordance with the admissions policy.

The number of students enrolled did not meet the enrollment capacity, while at least one student is enrolled every year on both universities.

(D) The expectation for the implementation of researches and programs which can contribute SDGs has been increasing every year as the concept is getting known among students. I think that this program has the potential to reach more prospective students by improving the quality of the program and also by reviewing the method of public relations as to how to attract the attention of students of various backgrounds.

2-3. Syllabuses

Criteria		• Academic curricula are organized and implemented based on Curriculum Policy.
Self-assessment	Rating III	• Academic curricula in the Joint Program were prepared and disclosed from the web system of the University of Tsukuba, KdB. • The contents of the curricula were examined by the responsive academic stuff to be consisted with the Curriculum Policy.
External-review	Rating (Please circle)	IV · ⬚III⬚ · II · I (A) rated III/ (B) rated III /(C) rated III/(D) rated III
	Comments	**(A)** The curriculum concept "Field-Oriented Environmental Engineering" with a mixture of learning processes in Tsukuba and MJIIT is very nice. **(B)** Overall, the syllabus of the course has well coverage of sustainability and environmental science. However, some flexibility to modify curricula should be available. As sustainability is a very dynamic issue, the syllabus should be monitor and revise and make changes to the need of changing environment. **(C)** Academic curricula have been organized and implemented based on the Curriculum Policy. **(D)** I find this program attractive as it is consisted of teachers of various specialties. I feel that there is still a room for the improvement based on the other features which are adapted and updated in our time of SDGs.

2-4. Evaluation method and criteria

Criteria	• Evaluation methods and criteria (grading and completion of the course) are established for each course. They are being conducted properly in a fair manner and have been disclosed to students. • Dissertation review system is published. • Dissertation review jointly conducted by the thesis examination committee.	
Self-assessment	Rating III	• Conversion of the grading systems between UT and UTM-MJIIT could be successfully established through extensive discussion and the mutual understanding achieved. • Dissertation review system is published and jointly conducted by the thesis examination committee
External-review	Rating (Please circle)	IV ・ │III│ ・ II ・ I (A) rated III/ (B) rated IV/(C) rated III/(D) rated III
	Comments	**(A)** The evaluation procedure is relevant. In Tsukuba side, grades are given only A+, A, B, C, and D? No scores 0-100? * Answer: Yes, the only grades were given to the student officially. Is there any difficulty to convert the grade in Tsukuba to UTM-MJIIT? If Malaysian students take Grade A in Tsukuba, how Tsukuba professors give exact score 75-79 (A-) or 80-89 (A)? * Answer: The comment from Reviewer A was reasonable. UT provides not only grading (A, B, …) of the student but also score per 100 to UTM-MJIIT. **(B)** I believe that the evaluate on method and criteria UT and UTM-MJIIT are implemented in fair and rigorous manner. A rubric system could be suggested in evaluation of dissertation review to ensure the standard evaluation criteria are used by both universities.

	(C) Evaluation methods and criteria have been established and conducted properly in a fair manner. They have been disclosed to students. Dissertation review system is published. Dissertation review was jointly conducted by the thesis examination committee. **(D)** I had an impression that teachers build a relationship of trust with their students in day-to-day communications and the evaluations and judgements are done by a strict and enthusiastic manner.

3. Student Support

3-1. Student support system

Criteria	• Housing support for students is prepared. • Financial support for students is considered. • Educational environment that provides education according to instruction goals is established. • Emergency contact system is prepared.	
Self-assessment	Rating III	• Students can use dormitory on the campus. • Students were financially supported by scholarship. • Students can take support by faculty staff and secretary. • Emergency contact system is well prepared.
External-review	Rating (Please circle)	IV • III • II • I (A) rated III/ (B) rated IV /(C) rated III/(D) rated III
	Comments	**(A)** Housing support and no tuition in counterpart university are good financial supports to students. Learning environment is well prepared. **(B)** Student support system is very well implemented and taken care by the university. **(C)** Housing support for students has been prepared. Students can stay at dormitories of the two universities. Financial support in the form of scholarship for students has been considered. Emergency contact system has been prepared. **(D)** I think that basically, the program has a student support system. Given the current covid-19 situation which incurs new issues like the need to for the mental support for the students, I think that it would be better to keep updating the student support system according to the ever changing situations.

Voluntary overall comment from (C)

	Rating (Please circle)	Ⅳ ・ Ⅲ ・ Ⅱ ・ Ⅰ
Conclusion	Comments	• This international JD Program has been well designed and managed, by two different universities from two different countries with different culture and system, based on close communication between academic and administrative staff of the two universities. • The JD Program has achieved expected targets so far except for the number of enrolled students. Though the number of enrolled students did not meet the capacity, at least one student for each university enrolled every year. • In addition, some larger impacts beyond expectation have been observed including the followings: (1) Enrolled students could gain not only academic knowledge and skills in sustainability and environmental sciences but also social soft skills such as respect for other culture and religion, sense of responsibility, English communication skills, thanks to the international nature of the program. (2) The JD Program has contributed to and accelerated the internationalization policy of the university. (3) The designing and implementation process of the JD Program has provided academic and administrative staff with opportunities to experience different ways of thinking and different culture from each other. • The two universities had had a long history of collaboration including joint supervision of graduate students, collaborative research, satellite office establishment, before they initiated the JD Program. The JD Program was initiated based on mutual trust between the two universities nurtured through such past collaborations. This can be considered to be one

of the factors that contributed to the smooth implementation of the JD Program. The university-level MOU between the two universities also helped them solve problems whenever there is a problem in the implementation of the JD Program. Sharing these experiences would be beneficial for those other universities who plan to design a JD program.

- It is strongly expected that the JD Program continues and enroll more students, in order to develop next generation leaders who can solve global environment issues, for the two countries, for the Asian region and for the world.

Conclusion (Chair)

Conclusion	Rating (Please circle)	IV ・ [III] ・ II ・ I
	Comments	The JD program is well planned and well managed in terms of many aspects. I appreciate very much the endeavors done by professors and administrative staffs in Tsukuba and UTM-MJIIT. Preferably the number of students should be satisfied by further encouragement to the students in both universities. On-line class systems may develop further this program to save cost and time and get more students in the program. More than three students may be able to join it. Getting jobs outside of the university are a few at present. The success of the JD program will be evaluated in future by considering their career paths and achievements. I understand it will take several years more. As an interim assessment, the achievements so far are very relevant, which promises to be quite successful in future. I look forward to hearing future activities implemented accordingly by this challenging and interesting program.

（日本語コメント）

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