IPSDS Assessment Report #3

Assessing Student Success and Retention

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20 May, 2018

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A. Goal of the report and data sources

The goal of this report is to summarize and assess success and retention of the two cohorts of IPSDS participants (n=31) by looking at completed courses and dropout rates (within single courses as well as for the entire program). The time period (March 2016-February 2018) covers 7 terms: spring 2016, summer 2016, fall 2016, winter 2016-2017, spring 2017, fall 2017, and winter 2017-2018. Data on the offered and obtained ECTS[1] are obtained via administrative data.

B. Overview of offered and completed ECTS credits

The online International Program in Survey and Data Science consists of 75 ECTS (60 ECTS worth of courses and 15 ECTS given for the Master's thesis). The courses consist of 6, 4, and 2 ECTS courses. While having a different number of ECTS credits, the IPSDS courses are designed to have equal weekly workload (ca. 12 hours a week) so that only the duration of the course differs - 6 ECTS courses run over an entire term (12 weeks), 4 ECTS courses run over 8 weeks, and 2 ECTS courses run over 4 weeks.

For the period March 2016-February 2018, IPSDS students completed the following amount of ECTS: 1st cohort (started in 2016, n=12 (excluding dropouts)) – mean=38.2; median=40; 2nd cohort (started in 2017, n=15) – mean=13.7; median=12. It is important to note however, that not all participants are committed to obtain the IPSDS Master's degree, as some participants are satisfied with completing a particular series of courses. In the 1st cohort, 8 out of 16 participants reported being interested in obtaining the Master's degree. In the 2nd cohort, the interest was indicated by 9 out of 15 participants.

Table 1 depicts to the number of offered and obtained ECTS credits for each term. A various number of ECTS credits offered within each term can be explained by the ongoing course development during the test phase. Despite a given variation of the number of ECTS credits offered, the maximum of the completed ECTS per term did not exceed 14. The observed change (since Fall 2017) in the average of the obtained ECTS per term is primarily due to the slowed down pace of the 1st cohort. The average pace of the fastest participants constitutes 6.6 ECTS per term for the 1st cohort (n=7) and 7.1 (n=6) for the 2nd cohort. The other half of the participants of the 1st cohort take on average 3.9 ECTS per term, for the 2nd cohort the pace is 2.99 per term. In other words, while half of the participants can manage to finish the program within three years, the other half might need to spend the maximum of the allowed time - five years.

Another important aspect is that those with a slower pace due to a particular phase in their life course could increase the number of courses they attend in the future. With more data on cohorts and terms, the estimate of students' pace will improve.

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[1] As accreditation is still pending, the IPSDS program is not able to issue ECTS credits. In this report ECTS credits are reported as a proxy for ECTS that are envisioned within the IPSDS curriculum (see more here: https://survey-data-science.net/program/curriculum).

Table 1. Description of terms with respect to the number of offered and obtained (by the participants) ECTS credits.

Term	ECTS offered	ECTS obtained Mean/Median (Min-Max)	Number of Students[2] (excluding program dropouts)
Spring 2016 (March-May)	22	8/6 (6-12)	16
Summer 2016 (June-August)	12	6.6/6 (0-12)	16
Fall 2016 (September-November)	20	6.4/6 (0-14)	16
Winter 2016-2017 (December-February)	10	4.4/4 (0-10)	16
Spring 2017 (March-May)	16	4.9/6 (0-10)	27
Fall 2016 (September-November)	14	3.3/2 (0-14)	27
Winter 2017-2018 (December-February)	12	3.1/2 (0-10)	27

Table 2. Description of terms with respect to the number of dropouts (within courses) and for the entire program

Term	ECTS offered	Number of dropped out courses	Number of Students who left the program
Spring 2016 (March-May)	22	1	0
Summer 2016 (June-August)	12	6	0
Fall 2016 (September-November)	20	6	0
Winter 2016-2017 (December-February)	10	2	4
Spring 2017 (March-May)	16	4	0
Fall 2016 (September-November)	14	7	0
Winter 2017-2018 (December-February)	12	5	0

[2] 2nd cohort started in Spring 2017

C. Dropout rates

Table 2 describes dropouts with respect to the number of dropouts (within courses) and for the entire program. While dropouts within courses refer to situations when student register for the course, but then do not manage to attend it, dropouts for the entire program mean that a particular student decided to leave the program. A high number of dropouts within courses is partly due to the fact that the test-phase of the program is free for participants. Hence, participants have no costs associated with the registration, even if they are not entirely sure about course's relevance and their time budget. Students who decide to leave the program completed at least 6 and max 24 ECTS. Reasons given for leaving the program included personal circumstances, high workload at work, and being satisfied with the courses completed given personal career goals and needs. One of the dropouts also mentioned an urgent need to access data science course that were planned for 2017-2018.

D. Summary

- The amount of ECTS participants managed to complete as well as dropouts rates within the period of March 2016-February 2018 confirm feasibility of the IPSDS program for working professionals working full-time as well as those combining full- or part-time employment with family responsibilities.

- How much time students require to obtain the IPSDS Master's degree ranges from three to five years: while half of the participants can manage to finish the program within three years, the other half might need to spend the maximum of the allowed time - five years.

- Since not all participants are interested in obtaining Master's degree, one should be careful in assessing program's success by taking retention and completion rates at their face value. While the main intention in traditional formal education is usually reduced to acquiring a degree, working professionals are primarily interested in advancing their career. The latter can succeed in various ways – e.g. by successfully completing one or a series of courses and not committing to the entire Master's degree. Therefore, traditional metrics such as completion rates need to be assessed within a larger context and preferably supplemented by additional measures such as original motivation of the students and their satisfaction with the achieved goals.