

**AACSB  
ASSURANCE OF LEARNING**

**Doctor of Philosophy in Data Science**

**(Ph.D.)**

**LEARNING GOAL # 2**

**Ph.D. graduates master the core knowledge and research tools in their major field of study.**

**Responsibility: Suman Banerjee, Feng Mai (or the Student’s Advisor)**

April 30, 2022

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# 1. Introduction: Learning Goal #2

**Goal: Ph.D. graduates master the** **core knowledge and research tools in their major field of study.**

*Objective 1: Students are able to write competitive research papers.*

A major educational objective of the School of Business at Stevens is to ensure that all of our graduates can publish peer reviewed articles in their respective research fields.

Research papers are an important part of DS PhD students’ education. They allow students to explore a particular topic in depth, and to learn from the work of others who have studied the same subject. Research papers also help students develop their research tools and skills, which are essential for success in academia. Another important aspect of publishing papers is getting feedback from experts in the field. The feedback can help students understand how they have mastered core knowledge in their major field of study. It can also help them determine whether their findings are significant and worth developing into a dissertation.

The DS program requires PhD students to publish at least one conference or journal paper for graduation. Each student has to submit a progress and activity report at the end of every semester. The assessment review summarizes the number of research papers for each student.

# 2. Learning Objectives and Traits

|  |  |
| --- | --- |
| **PhD - 2** | **Learning Goal, Objectives and Traits** |
| **GOAL** | **Ph.D. graduates master the core knowledge and research tools in their major field of study.** |
| **Learning Objectives** |  |
| **Objective 1:** | *Students are able to write competitive research papers.* |
| **Traits** |  |
| Trait 1: | Number of publications at graduation |

# 3. Rubrics

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PhD - 2: RUBRIC 1** | | | | |
| **GOAL** | Ph.D. graduates master the core knowledge and research tools in their major field of study. | | | |
| **Objective 1** | *Students are able to write competitive research papers.* | | | |
|  | **Trait** | **Poor** | **Good** | **Excellent** |
|  | **Value** | **0** | **1** | **2** |
| Trait 1: | Number of publications at graduation |  |  | -- |

**Criterion: Does not meet expectations (Poor): 0;** **Meets (Good) 1; Exceeds (Excellent):** **≥ 2**

# 4. Assessment Process

|  |  |  |
| --- | --- | --- |
| **Where & when measured?** | **How measured?** | **Criterion** |
| Each student has to submit a progress and activity report at the end of every semester. | The number of peer-reviewed journals (PRJ), conference proceedings (Procs), book chapters (Bk Chap), Books, and Working Papers written by each student at the time of the assessment.  Sampling: All PhD students | All students (100%) have to publish at least one conference or journal paper by the time of graduation. |

# 5. Results of Learning Goal Assessment – Introduction

The results of the initial learning goal assessments carried out to date are included below.

**Explanation**

Each learning goal has a number of learning objectives and performance on each objective is measured using a rubric that in turn contains a number of desired “traits”. Students are scored individually on each trait.

The grading sheets for each student are used to develop a Summary Results Sheet for each learning goal objective. A selection of these Summaries is included below.

The first table in the Summary Results Sheet for a learning objective and trait gives the counts of students falling in each of the three categories:

- Does not meet expectations  
- Meets expectations  
- Exceeds expectations

The right-hand column in the table is used to record the average score of the students on each trait. This table provides an indication of the relative performance of students on each trait.

The second table on each sheet provides the counts of students who fall in each of the above three categories for the overall learning objective.

# 6. Results of Assessment: Spring 2022

**LEARNING GOAL** **PHD 2: Ph.D. graduates master the core knowledge and research tools in their major field of study.**

*Objective 1: Students are able to write competitive research papers.*

**ASSESSMENT DATE:** **2022-03-19 ASSESSOR: Feng Mai**

**NO. OF STUDENTS TESTED: 8**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Student Name |  |  |  |  |  |  |  |
| **2018F** |  | **PRJ** | **Procs** | **Bk Chap** | **Books** | **Working Papers** | **Total** |
| Mingsong | Ye | 0 | 0 | 0 | 0 | 1 | 1 |
| Shiyan | Zhang | 0 | 1 | 0 | 0 | 1 | 2 |
| Lei | Zheng | 0 | 7 | 0 | 0 | 2 | 9 |
| **2019F** |  |  |  |  |  |  |  |
| Yangyang | Yu | 0 | 0 | 0 | 0 | 0 | 0 |
| Lun | Li | 0 | 0 | 0 | 0 | 0 | 0 |
| **2020F** |  |  |  |  |  |  |  |
| Mengfang | Sun | 0 | 0 | 0 | 0 | 2 | 2 |
| Francesco | Fabozzi | 3 | 0 | 1 | 4 | 2 | 10 |
| Di | Zhu | 1 | 2 | 0 | 0 | 2 | 5 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectations** | **Meet Expectations** | **Exceed Expectations** | **Avg. Grade on Trait** |
| 1. Number of publications at graduation | 2 | 1 | 5 | 1.375 |
| **Average Grade** | | | | **1.375** |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** | **2** | **1** | **5** |
| **Students meeting or exceeding expectations:** | | **6** | |

**COMMENTS:** Most (75%) students are able to write competitive research papers.

**REMEDIAL ACTIONS:** Students and advisors should be informed about the graduation requirements and encouraged to develop their research projects into completed papers as early as possible.

# 7. Outcomes from Previous Assessments

N/A; Spring 2022 is the first time that the DS PhD program is assessed.

# 8. Close Loop Process – Continuous Improvement Record

N/A; Spring 2022 is the first time that the DS PhD program is assessed.