

Graduate Degree & Subject: PhD in Physics/Astronomy

Graduate Director: William Oliver

REPORT FOR AY 2011-2012

INDIRECT DATA: Answer this set of questions (i.e., complete this chart) for EACH of the indirect assessments you used.

| | QUESTIONS TO ANSWER | PLEASE WRITE OR TYPE THE INFORMATION IN THIS COLUMN The boxes will expand as you type. |
|--------------------------------------|---|---|
| Objectives for Assessment | List the objective(s) assessed. | <ol style="list-style-type: none"> 1. Satisfaction with program at time of graduation 2. Success in chosen career |
| INDIRECT DATA Collection & Review | Briefly describe the assessment. <i>I.e., written survey; focus group; conversation with advisor, alumni survey, count of graduates' peer reviewed journal articles in the first five years after graduation, leadership roles ten years after graduation...</i> | <ol style="list-style-type: none"> 1. Graduate Exit Survey 2. Alumni survey |
| | At what point in your students' program was this indirect assessment conducted? <i>I.e., just prior to graduation after all degree requirements have been completed; upon completion of the comprehensive exams; five years after graduation; in the required research methods course generally taken in the first semester of the program...</i> | <ol style="list-style-type: none"> 1. Just prior to graduation 2. At the present time |
| | Briefly describe how the data was collected. | <ol style="list-style-type: none"> 1. From the Graduate Exit Survey conducted by the Tufts Office of Institutional Research and Evaluation 2. Primarily from the Tufts Graduate Alumni Office |
| | When was the data collected? <i>I.e., month or semester and year.</i> | <ol style="list-style-type: none"> 1. 2010 – 2011 2. Spring 2012 |
| | Who reviewed the aggregated data for this assessment to determine trends in student learning? <i>Provide the role of the individual(s) rather than their names.</i> | The Director of the Graduate Program |

DIRECT DATA: Answer this set of questions (i.e., complete this chart) for EACH of the direct assessments you used.

| | QUESTIONS TO ANSWER | PLEASE WRITE OR TYPE THE INFORMATION IN THIS COLUMN |
|------------------------------------|---|---|
| Objectives for Assessment | List the objective(s) assessed. | Ability to communicate scientific ideas and results effectively, orally and in writing, to professional colleagues. |
| DIRECT DATA Collection & Review | Briefly describe the student work that was used for this assessment. <i>I.e., written comprehensive exam question; dissertation defense, master's thesis, performance...</i> | Performance on Oral Qualifying Exam and Dissertation Defense. |
| | At what point in their program did the students complete this work? <i>I.e., just prior to graduation after all degree requirements have been completed; upon completion of the comprehensive exams; five years after graduation; in the required research methods course generally taken in the first semester of the program...</i> | The oral qualifying exam is usually taken by the students in their third year, after they have completed the required course work and chosen a research area. The dissertation defense is presented when the student thinks the thesis has been completed. |
| | Briefly describe how the student work samples were collected. | The reviews of the performance of the students were collected by the Director of the Graduate Program. |
| | When were the student work samples collected? <i>I.e., month or semester and year.</i> | The reviews were collected within two weeks after the exams. |
| | Briefly describe the review process used. <i>I.e., number of reviewers, role of the reviewers, and any tools like a rubric or checklist.</i> | The performance was reviewed by every member of the exam committee, using a form that listed three specific aspects to be judged. |
| | Who reviewed the aggregated data for this assessment to determine trends in student learning? <i>Provide the role of the individual(s) rather than their names.</i> | The Director of the Graduate Program. |

ASSESSMENT RESULTS:

| | QUESTIONS TO ANSWER | PLEASE WRITE OR TYPE THE INFORMATION IN THIS COLUMN |
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| STRENGTHS & CHALLENGES IDENTIFIED | What strengths were identified? <i>Strengths are areas where the students met or exceeded the degree of sophistication or the standard of performance you were hoping to see, or where students express great satisfaction with their learning experience.</i> | With preparation the students are able to grasp the essential ideas in a narrow field of research. |
| | What challenges were identified? <i>Challenges are areas where you would like to improve your students' learning experience, degree of sophistication or standard of performance.</i> | The students need to improve their level of physical intuition so they can relate the phenomena in one research field in a general way to the phenomena in other research fields. The students need to more carefully construct their presentations so the ideas from the earlier sections develop in the later sections. |
| TARGETS FOR IMPROVEMENT | What challenges were targeted for improvement? | The careful construction of their presentations |
| | What individual or group determined the strategies used to address the challenges? <i>Provide the role of the individual(s) rather than their names.</i> | The Director of Graduate Studies |

CHALLENGES ADDRESSED: Answer this set of questions (i.e., complete this chart) for EACH of the challenges you chose to address.

| | QUESTIONS TO ANSWER | PLEASE WRITE OR TYPE THE INFORMATION IN THIS COLUMN |
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| STRATEGY FOR IMPROVEMENT | Challenge | Careful construction of presentation |
| | What strategies were implemented to address this challenge? | One possibility is to require the students to prepare a written overview of their presentation that they would then read at the beginning of their talk. A reading time of ten minutes seems about right. |
| | What resources were needed to implement the strategies? | No new resources would be required. |
| | Were those resources available/approved? | The strategies will be discussed in a department meeting in fall 2012. |

DATA SHARING:

| | QUESTIONS TO ANSWER | PLEASE WRITE OR TYPE THE INFORMATION IN THIS COLUMN |
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| REPORTING ASSESSMENT RESULTS | When and in what forum were the <u>assessment results</u> reported to the faculty and administration? | The assessment results will be discussed in a department meeting in fall 2012. |
| | When and in what forum were the <u>strategies to address challenges</u> reported to the faculty and administration? | For now the strategies have been reported to the department faculty by email. |