Expected Outcome 1: Career preparation

Graduates should have the statistical knowledge and skills appropriate for a range of professional careers or further graduate studies.

Assessment Method 1: Evaluation by advisory committee

Assessment Method Description

Each student is required to complete a final project designed by the student's advisory committee and give an oral presentation. Each member of the advisory committee will individually assess the student's career preparedness, and answer the questions using the following five categories.

Strongly agree: The committee member strongly agrees with the judgment.

Agree: The committee member agrees with the judgment.

Neutral: The committee member is neutral about the judgment.

Disagree: The committee member disagrees with the judgment.

Strongly disagree: The committee member strongly disagrees with the judgment.

Findings

There are 24 evaluations for 8 students.

Question: The student is well-prepared for his/her professional career.

Strongly agree: 10 (42%)
Agree: 8 (33%)
Neutral: 5 (20%)
Disagree: 1 (4%)
Strongly disagree: 0 (0%)

**How did you use findings for improvement?**

More detailed and more meaningful data were obtained.

**Additional Comments**

**Assessment Method 2:** Program evaluation by graduate students

**Assessment Method Description**

Graduating students will be encouraged to complete exit surveys to assess their experience in the doctoral program and, in particular, their level of career preparedness. The student will answer the questions using the following five categories.

Strongly agree: The student strongly agrees with the judgment.

Agree: The student agrees with the judgment.

Neutral: The student is neutral about the judgment.

Disagree: The student disagrees with the judgment.

Strongly disagree: The student strongly disagrees with the judgment.

**Findings**

There are 8 evaluations from 8 students.

**Question:** The graduate program adequately prepares me for my future career.

- Strongly agree: 1 (12%)
- Agree: 5 (63%)
- Neutral: 2 (25%)
- Disagree: 0 (0%)
- Strongly disagree: (0%)

**How did you use findings for improvement?**

More detailed and more meaningful data were obtained.
Additional Comments

**Expected Outcome 3: Communication skills and statistical consulting**
Graduates should be able to formulate real problems into statistical questions and communicate statistical methods and results to clients with little statistical background, both orally and in writing.

**Assessment Method 1: Evaluation by advisory committees**

**Assessment Method Description**
Each student is required to complete a final project designed by the student's advisory committee and give an oral presentation. Each member of the advisory committee will individually assess the student's communication skills, and answer the questions using the following five categories.

- Strongly agree: The committee member strongly agrees with the judgment.
- Agree: The committee member agrees with the judgment.
- Neutral: The committee member is neutral about the judgment.
- Disagree: The committee member disagrees with the judgment.
- Strongly disagree: The committee member strongly disagrees with the judgment.

**Findings**
There are 24 evaluations for 8 students.

**Question:**
The student presents the project clearly and with confidence.
- Strongly agree: 10 (42%)
- Agree: 8 (33%)
- Neutral: 5 (21%)
- Disagree: 1 (4%)
- Strongly disagree: 0 (0%)

**Question:**
The student can communicate statistical findings with clients/non-
How did you use findings for improvement?

As a way of training communication skills, a course project was required in most graduate-level statistical courses. Students were required to work in groups on real data analysis, and presented their projects in the end of semester.

Additional Comments

Assessment Method 2: Program evaluation by graduating students

Assessment Method Description
Students will be encouraged to complete exit surveys to assess their experience in the master’s program and, in particular, their communication skills. The student will answer the questions using the following five categories.

Strongly agree: The student strongly agrees with the judgment.

Agree: The student agrees with the judgment.

Neutral: The student is neutral about the judgment.

Disagree: The student disagrees with the judgment.

Strongly disagree: The student strongly disagrees with the judgment.

Findings
There are 8 evaluations from 8 students.

Question:
I am confident in communicating statistical findings with clients/non-statistician.

Strongly agree: 3 (38%)
Agree: 3 (38%)
Neutral: 1 (12%)
Disagree: 1 (12%)
Strongly disagree: 0 (0%)

I am confident in giving a presentation.
Strongly agree: 3 (38%)
Agree: 4 (50%)
Neutral: 1 (12%)
Disagree: 0 (0%)
Strongly disagree: 0 (0%)

**How did you use findings for improvement?**

As a way of training communication skills, a course project was required in most graduate-level statistical courses. Students were required to work in groups on real data analysis, and presented their projects in the end of semester.

**Additional Comments**

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**Expected Outcome 4: Knowledge and understanding of statistical theory**

Graduates should have an adequate understanding of mathematical basis and foundations of probability and statistics and be able to comprehend related technical content.

**Assessment Method 1:** Evaluation by advisory committees

**Assessment Method Description**

Each student is required to complete a final project designed by the student's advisory committee and give an oral presentation. Each member of the advisory committee will individually assess the student's knowledge and understanding of statistical theory, and answer the questions using the following five categories.

Strongly agree: The committee member strongly agrees with the judgement.

Agree: The committee member agrees with the judgement.

Neutral: The committee member is neutral about the judgement.
Disagree: The committee member disagrees with the judgement.

Strongly disagree: The committee member strongly disagrees with the judgement.

**Findings**
There are 24 evaluations for 8 students.

Question:
The student has a clear understanding of statistical concepts.
Strongly agree: 8 (33%)
Agree: 10 (42%)
Neutral: 5 (21%)
Disagree: 1 (4%)
Strongly disagree: 0 (0%)

The student has a solid understanding of theory in Probability and Statistics.
Strongly agree: 9 (38%)
Agree: 12 (50%)
Neutral: 3 (12%)
Disagree: 0 (0%)
Strongly disagree: 0 (0%)

**How did you use findings for improvement?**

Faculty were asked to use more examples in lecture to illustrate statistical concepts.

**Additional Comments**

**Assessment Method 2:** Program evaluation by graduating students

**Assessment Method Description**
Students will be encouraged to complete exit surveys to assess their experience in the master's program and, in particular, their level of knowledge and understanding of statistical theory. The student will answer the questions using the following five categories.

Strongly agree: The student strongly agrees with the judgement.
Agree: The student agrees with the judgement.
Neutral: The student is neutral about the judgement.
Disagree: The student disagrees with the judgement.
Strongly disagree: The student strongly disagrees with the judgement.

**Findings**
There are 8 evaluations from 8 students.

Question:
I have a clear understanding of statistical concepts.
Strongly agree: 5 (63%)
Agree: 3 (37%)
Neutral: 0 (0%)
Disagree: 0 (0%)
Strongly disagree: 0 (0%)

I have a solid understanding of theory in Probability and Statistics.
Strongly agree: 4 (50%)
Agree: 4 (50%)
Neutral: 0 (0%)
Disagree: 0 (0%)
Strongly disagree: 0 (0%)

**How did you use findings for improvement?**
Faculty were asked to use more examples in lecture to illustrate statistical concepts.

**Additional Comments**
Expected Outcome 5: Skills on statistical modeling and data analysis

Graduates should have an adequate understanding of common statistical methods and techniques for data analysis and be proficient in at least one statistical software.

Assessment Method 1: Evaluation by advisory committees

Assessment Method Description
Each student is required to complete a final project designed by the student's advisory committee and give an oral presentation. Each member of the advisory committee will individually assess the student's skills on statistical modeling and data analysis, and answer the questions using the following five categories.

Strongly agree: The committee member strongly agrees with the judgment.
Agree: The committee member agrees with the judgment.
Neutral: The committee member is neutral about the judgment.
Disagree: The committee member disagrees with the judgment.
Strongly disagree: The committee member strongly disagrees with the judgment.

Findings
There are 24 evaluations for 8 students.

Question:
The student is familiar with common statistical models and methods.
Strongly agree: 12 (50%)
Agree: 7 (29%)
Neutral: 5 (21%)
Disagree: 0 (0%)
Strongly disagree: 0 (0%)

The student is proficient in a statistical software (SAS, R, or similar)
Strongly agree: 17 (71%)
Agree: 3 (12%)
Neutral: 4 (17%)
The student can independently conduct data analysis correctly and thoroughly.
Strongly agree: 10 (42%)
Agree: 7 (29%)
Neutral: 5 (21%)
Disagree: 2 (8%)
Strongly disagree: 0 (0%)

How did you use findings for improvement?
More detailed and more meaningful data were obtained.

Additional Comments
Assessment Method 2: Program evaluation by graduating students

Assessment Method Description
Students will be encouraged to complete exit surveys to assess their experience in the master’s program and, in particular, their skills on statistical modeling and analysis. The student will answer the questions using the following five categories.

Strongly agree: The student strongly agrees with the judgement.
Agree: The student agrees with the judgement.
Neutral: The student is neutral about the judgement.
Disagree: The student disagrees with the judgement.
Strongly disagree: The student strongly disagrees with the judgement.

Findings
There are 8 evaluations from 8 students.

Question:
I am familiar with common statistical models and methods
Strongly agree: 5 (63%)
Agree: 3 (27%)
Neutral: 0 (0%)
Disagree: 0 (0%)
Strongly disagree: 0 (0%)
I am proficient in at least one statistical software (SAS, R or similar).
Strongly agree: 3 (27%)
Agree: 5 (63%)
Neutral: 0 (0%)
Disagree: 0 (0%)
Strongly disagree: 0 (0%)

I am confident in analyzing data independently.
Strongly agree: 3 (27%)
Agree: 5 (63%)
Neutral: 0 (0%)
Disagree: 0 (0%)
Strongly disagree: 0 (0%)

How did you use findings for improvement?
More detailed and more meaningful data were obtained.

Additional Comments
Appendix A

Department of Mathematics and Statistics
Assessment Form for M.S./M.P.S. Students (Statistics)

Student: ___________________________ Faculty: ___________________________
Degree: MPS [ ] MS [ ] Exam date: ___________________________

Each member of the student’s committee is asked to complete the assessment form. This information is solely used for the purpose of departmental program assessment and not for the assessment or grading of the individual student.

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

1. The student has a clear understanding of statistical concepts.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

2. The student has a solid understanding of theory in Probability and Statistics.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

3. The student is familiar with common statistical models and methods.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

4. The student is proficient in a statistical software (SAS, R or similar).

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

5. The student is capable of formulating real problems into appropriate statistical models.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

6. The student can independently conduct data analysis correctly and thoroughly.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

7. The student can communicate statistical findings with clients/non-statisticians.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

8. The oral presentation is well-prepared.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

9. The student presents the project/thesis clearly and with confidence.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

10. The project report/thesis is well written.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

11. The project report/thesis is publishable in a refereed journal.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

12. The student is well-prepared for his/her professional career.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

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Appendix B

Department of Mathematics and Statistics
Exit Survey for M.S./M.P.S. Students (Statistics)

This survey is intended to collect information from graduates in order to strengthen and improve the graduate program. Your answers are absolutely confidential and will not be linked to you in any way. Please be candid, honest, and thoughtful while answering.

What degree are you completing? M.S.  M.P.S.  
Where are you going after graduation?  

Please answer the following questions for self-evaluation.

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

1. I have a clear understanding of statistical concepts.
   1 2 3 4 5  

2. I have a solid understanding of theory in Probability and Statistics.
   1 2 3 4 5  

3. I am familiar with common statistical models and methods.
   1 2 3 4 5  

4. I am proficient in at least one statistical software (SAS, R or similar).
   1 2 3 4 5  

5. I understand how to formulate a real problem into an appropriate statistical model.
   1 2 3 4 5  

6. I am confident in analyzing data independently.
   1 2 3 4 5  

7. I am confident in communicating statistical findings with clients/non-statistician.
   1 2 3 4 5  

8. I am confident in giving a presentation.
   1 2 3 4 5  

9. I understand how to write a statistical report.
   1 2 3 4 5  

10. I am satisfied with my academic performance at Auburn.
    1 2 3 4 5  