Stevens Institute of Technology

School of Business

**AACSB**
**ASSURANCE OF LEARNING**

**Master of Science in Financial Analytics**

 **(FA)**

**LEARNING GOAL #1**

**Our students will interact effectively in teams.**

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January 2022

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1. INTRODUCTION: LEARNING GOAL #2

*Students will demonstrate an understanding of effective interaction in teams.*

This goal is assessed in *FA 541 Applied Statistics with Applications in Finance,* which is a required core course in the FA curriculum. The assessment process described here applies to students taking the graduate course FA 541.

FA 541 students complete pre and post-assessments. The pre-assessment occurs in the first week of class prior to being assigned to a team or to any instruction on effective teamwork. The post-assessment occurs during the final week of the course.

2. LEARNING OBJECTIVES AND TRAITS

|  |
| --- |
| **Objective 1:** *Students will be able to facilitate task accomplishment within the context of project teams.* |
| **Traits** |   |
| Trait 1: | Anticipates problems and develops contingency plans |
| Trait 2: | Recognizes interrelationships among problems and issues |
| Trait 3: | Suggests new approaches to solving problems |
| Trait 4: | Organizes information into meaningful categories |
| Trait 5: | Helps others to draw conclusions from the facts |
| Trait 6: | Defines task priorities for work sessions and or overall projects |
| Trait 7: | Ensures that goals are understood by all |
| Trait 8: | Clarifies roles and responsibilities of others |
| Trait 9: | Reviews progress throughout work sessions/life of a project |
| Trait 10: | Summarizes the team's position on issues |
| **Objective 2:** *Students will be able to facilitate relationship building within the context of project teams.* |
| **Traits** |   |
| Trait 1: | Conveys interest in what others are saying |
| Trait 2: | Encourages ideas and opinions even when they differ from his/her own |
| Trait 3: | Works towards solutions and compromises that are acceptable to all involved |
| Trait 4: | Shares credit for success with others |
| Trait 5: | Cooperates with others |
| Trait 6: | Encourages participation among all participants |
| Trait 7: | Shares information with others |
| Trait 8: | Reinforces the contributions of others |
| Trait 9: | Involves others in decisions that affect them |
| Trait 10: | Encourages others to express their views even when they are contrary to his/her own |

3. RUBRICS

**Objective 1:** *Students will be able to facilitate task accomplishment within the context of project teams*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | **Trait** | **Poor** | **Good** | **Excellent** |
|   | **Value** | **0** | **5** | **10** |
| Trait 1: | Anticipates problems and develops contingency plans | Fails to suggest a direction and does not clarify responsibilities  | Suggests some form of direction for the team | Identifies ways to proceed or alternatives to pursue and clarifies roles and objectives |
| Trait 2: | Recognizes interrelationships among problems and issues | Fails to request information from the team | Makes an effort to request information from the team | Asks questions, analyzes knowledge gaps, requests opinions, beliefs and perspectives |
| Trait 3: | Suggests new approaches to solving problems | Fails to provide information needed | Provides some necessary information | Provides data, offers factors, and judgments and highlights conclusions  |
| Trait4 | Organizes information into meaningful categories | Does not expand on others ideas | Makes an effort to build on others' suggestions | Builds on ideas expressed by others; provides examples and illustrations |
| Trait5 | Helps others to draw conclusions from the facts | Fails to suggest to the team to stay focused on the team's task | Makes an effort to keep members focused on the task | Urges team members to stay on task and to achieve team goals |
| Trait6 | Defines task priorities for work sessions and or overall projects | Fails to monitor progress | Tries to check progress | Checks on progress, helps maintain accountability of results |
| Trait7 | Ensures that goals are understood by all | Provides no analysis of team processes | Makes an effort to analyze team processes | Analyzes process and procedures used by the team in order to improve efficiency and timeliness.  |
| Trait8 | Clarifies roles and responsibilities of others | Does not ground comments in reality | Makes an attempt to check whether ideas are grounded in reality | Explores whether ideas presented are practical or workable. |
| Trait9 | Reviews progress throughout work sessions/life of a project | Does not reinforce team rules | Tries to reinforce team agreed upon principles | Helps to reinforce team rules, and maintains agreed upon principles |
| Trait10 | Summarizes the team's position on issues | Fails to summarize points and conclusions reached, and does not clarify conclusions reached | Makes an effort to summarize points and clarify conclusions | Combines ideas; sums up points made; Helps members understand the conclusions reached. |

**Objective 2:** *Students will be able to facilitate relationship building within the context of project teams.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | **Trait** | **Poor** | **Good** | **Excellent** |
|   | **Value** | **0** | **5** | **10** |
| Trait 1: | Conveys interest in what others are saying | Fails to praise the contributions of others | Makes an effort to commend the ideas of others  | Praises the ideas of others, shows friendliness, and points out others' contributions |
| Trait 2: | Encourages ideas and opinions even when they differ from his/her own | Does not attempt to find common ground in conflicting points of view.  | Makes an effort to find common ground in disputes | Mediates differences between others and finds a common ground in disputes  |
| Trait 3: | Works towards solutions and compromises that are acceptable to all involved | Fails to motivate team members | Makes an attempt to energize team members | Motivates others towards greater effort |
| Trait4 | Shares credit for success with others | Fails to challenge disruptive behaviors  | Makes an effort to challenge uproductive behaviors | Challenges unproductive behaviors  |
| Trait5 | Cooperates with others | Fails to encourage solidarity  | Makes an effort to ensure proper team behavior | Encourages agreement and helps smooth interactions |
| Trait6 | Encourages participation among all participants | Fails to express empathy for team members  | Attempts to reflect group feelings | Expresses empathy and support for team members |
| Trait7 | Shares information with others | Reluctant to share information with team members | Occasionally disseminates information  | Regularly Shares information willingly with team members |
| Trait8 | Reinforces the contributions of others | Fails to reinforce other team members’ help  | Makes an effort to provide positive feedback following others’ assistance  | Reinforces the contributions of others |
| Trait9 | Involves others in decisions that affect them | Fails to include team members in decisions that will affect them | Makes an effort to involve other team members in decisions that will affect them | Gets team members involvement in decisions that will affect them |
| Trait10 | Encourages others to express their views even when they are contrary to his/her own | Discourages others’ constructive dissent. | Attempts to encourage others’ constructive disagreement. | Urges others’ to express contrary views. |

4. ASSESSMENT PROCESS

|  |  |  |
| --- | --- | --- |
| **Where & when measured?** | **How measured?** | **Criterion** |
| Assessed in the fall semester in required course *FA541 Applied Statistics with Applications in Finance* | Team performance questionnaires are administered online Sampling: All students in the FA program are assessed. | 85% of the students get a grade of GOOD or better on the final project as measured by the rubric for this learning goal. |

Instructors receive section feedback immediately after students complete the pre and post-assessments in the form of:

Summary report similar to Students’ Report

Plus individual item analysis

The team Skills assessment tool is housed in the Stevens Assessment Center (SAC). The student access and assessment administration process is identical to end-of-semester course evaluations.

Students are prompted by SAC that survey is open and instructors are provided periodic lists of non-respondents.

 Reports are automatically generated by SAC for feedback to the instructors and incorporation in the learning goal 2 booklet.

5. RESULTS OF LEARNING GOAL ASSESSMENT - INTRODUCTION

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

**Explanation of Direct Measurements**

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.

The person doing the assessment provides explanatory comments and recommendations on the bottom of the Results Summary Sheet. The recommendations improve content or pedagogy changes for the next time the course is given.

**Explanation of Indirect Measurements**

Assessed in the final capstone project in the FA800 Special problems in Financial Analytics class in which they work on projects in groups.

 6. Assessment Fall 2021:

NOTICE THAT THE DIRECT ASSESSMENT IS DONE FOR ON CAMPUS; WEBCAMUS AND COMBINED THIS IS NOW A REQUIREMENT FOR AOL

WE WILL START ASSESSMENTS IN FALL OF 2021

## The direct measurement is the written assignment

1. Indirect measurement is use periodically. Assessed in the final capstone project in the FA800 Special problems in Financial Analytics class.

RESULTS OF ASSESSMENT: Fall 2021

**LEARNING GOAL #: 2 Our students will interact effectively in teams.**

**LEARNING OBJECTIVE # 1:** *Students will be able to facilitate task accomplishment (team leadership) within the context of project teams*

**ASSESSMENT DATE: 1/18/2022 ASSESSOR: Zhenyu Cui**

**NO. OF STUDENTS TESTED: \_21\_ with all data available. Course: FA 541-A**

|  |  |  |
| --- | --- | --- |
|  | **Number of Students** |  |
| **Learning Goal Traits** | **Not Meet Expectations**  | **Meet Expectations**  | **Exceed Expectations**  | **Avg. Grade on Trait** |
| 1. Anticipates problems and develops contingency plans | **1** | **1** | **19** | 4.76 |
| 2. Recognizes interrelationships among problems and issues | **0** | **5** | **16** | 4.71 |
| 3. Suggests new approaches to solving problems | **0** | **12** | **9** | 4 |
| 4. Organizes information into meaningful categories | **1** | **3** | **17** | 4.67 |
| 5. Helps others to draw conclusions from the facts | **1** | **5** | **15** | 4.57 |
| 6. Defines task priorities for work sessions and or overall projects | **1** | **6** | **14** | 4.52 |
| 7. Ensures that goals are understood by all | **1** | **4** | **16** | 4.62 |
| 8. Clarifies roles and responsibilities of others | **1** | **0** | **20** | 4.81 |
| 9. Reviews progress throughout work sessions/life of a project | **1** | **0** | **20** | 4.81 |
| 10. Summarizes the team's position on issues | **1** | **3** | **17** | 4.62 |
| **Average Grade (Maximum 5)** | 4.61 |
|  | **Not Meet Expectations (0-3)** | **Meet Expectations (3-4.6)** | **Exceed Expectations (4.6-5)** |  |
| **Total Students by Category** (Based on Average score across all traits) | **1** | **4** | **16** |  |

**COMMENTS: In general, for students in Section A, most students meet or exceed expectations in all 10 traits. note that more than half of the students do not exceed expectations in the trait #3.**

**REMEDIAL ACTIONS:**  Aim to improve scores on trait #3, and motivate students to employ novel approaches to tackle the research question.

**LEARNING OBJECTIVE # 1:** *Students will be able to facilitate task accomplishment (team leadership) within the context of project teams*

**ASSESSMENT DATE: 1/18/2022 ASSESSOR: Zhenyu Cui**

**NO. OF STUDENTS TESTED: \_8\_ with all data available. Course: FA 541-WS**

|  |  |  |
| --- | --- | --- |
|  | **Number of Students** |  |
| **Learning Goal Traits** | **Not Meet Expectations**  | **Meet Expectations**  | **Exceed Expectations**  | **Avg. Grade on Trait** |
| 1. Anticipates problems and develops contingency plans | **0** | **1** | **7** | 4.75 |
| 2. Recognizes interrelationships among problems and issues | **0** | **4** | **4** | 4.5 |
| 3. Suggests new approaches to solving problems | **0** | **5** | **3** | 4.25 |
| 4. Organizes information into meaningful categories | **0** | **3** | **5** | 4.375 |
| 5. Helps others to draw conclusions from the facts | **0** | **0** | **8** | 5 |
| 6. Defines task priorities for work sessions and or overall projects | **0** | **1** | **7** | 4.875 |
| 7. Ensures that goals are understood by all | **0** | **2** | **6** | 4.75 |
| 8. Clarifies roles and responsibilities of others | **0** | **0** | **8** | 5 |
| 9. Reviews progress throughout work sessions/life of a project | **0** | **2** | **6** | 4.75 |
| 10. Summarizes the team's position on issues | **0** | **4** | **4** | 4.375 |
| **Average Grade (Maximum 5)** | 4.6625 |
|  | **Not Meet Expectations (0-3)** | **Meet Expectations (3-4.6)** | **Exceed Expectations (4.6-5)** |  |
| **Total Students by Category** (Based on Average score across all traits) | **0** | **4** | **4** |  |

**COMMENTS: For students in web section, more than half of the students do not exceed expectation in trait #2, #3, #10.**

**REMEDIAL ACTIONS:**  Besides motivating students to employ novel approaches, emphasis should also be on leading students to discover the connections among different problems, and then summarize their positions.

**LEARNING OBJECTIVE # 1:** *Students will be able to facilitate task accomplishment (team leadership) within the context of project teams*

**ASSESSMENT DATE: 1/18/2022 ASSESSOR: Zhenyu Cui**

**NO. OF STUDENTS TESTED: \_29\_ with all data available. Course: FA 541-A and WS combined**

|  |  |  |
| --- | --- | --- |
|  | **Number of Students** |  |
| **Learning Goal Traits** | **Not Meet Expectations**  | **Meet Expectations**  | **Exceed Expectations**  | **Avg. Grade on Trait** |
| 1. Anticipates problems and develops contingency plans | **1** | **2** | **26** | 4.76 |
| 2. Recognizes interrelationships among problems and issues | **0** | **9** | **20** | 4.61 |
| 3. Suggests new approaches to solving problems | **0** | **17** | **12** | 4.13 |
| 4. Organizes information into meaningful categories | **1** | **6** | **22** | 4.52 |
| 5. Helps others to draw conclusions from the facts | **1** | **5** | **23** | 4.79 |
| 6. Defines task priorities for work sessions and or overall projects | **1** | **7** | **21** | 4.70 |
| 7. Ensures that goals are understood by all | **1** | **6** | **22** | 4.68 |
| 8. Clarifies roles and responsibilities of others | **1** | **0** | **28** | 4.90 |
| 9. Reviews progress throughout work sessions/life of a project | **1** | **2** | **26** | 4.78 |
| 10. Summarizes the team's position on issues | **1** | **7** | **21** | 4.50 |
| **Average Grade (Maximum 5)** | 4.61 |
|  | **Not Meet Expectations (0-3)** | **Meet Expectations (3-4.6)** | **Exceed Expectations (4.6-5)** |  |
| **Total Students by Category** (Based on Average score across all traits) | **1** | **8** | **20** |  |

**COMMENTS: For students in both Section A and Section WS, in general most students exceed expectations. The traits that need more work are trait #2, #3 and #10.**

**REMEDIAL ACTIONS:**  Similar to before, we shall draw students attentions to how to interpret different problem through their internal connections, and also motivate students to try new methods to tackle the problem.

**LEARNING OBJECTIVE # 2:** *Students will be able to facilitate relationship building (team facilitation) within the context of project teams.*

**ASSESSMENT DATE: 1/18/2022 ASSESSOR: Zhenyu Cui**

**NO. OF STUDENTS TESTED: \_21\_ with all data available. Course: FA 541-A**

|  |  |  |
| --- | --- | --- |
|  | **Number of Students** |  |
| **Learning Goal Traits** | **Not Meet Expectations** | **Meet Expectations** | **Exceed Expectations** | **Avg. Grade on Trait** |
| 1. Conveys interest in what others are saying | **1** | **1** | **19** | 4.76 |
| 2. Encourages ideas and opinions even when they differ from his/her own | **1** | **7** | **13** | 4.48 |
| 3. Works towards solutions and compromises that are acceptable to all involved | **1** | **9** | **11** | 4.05 |
| 4. Shares credit for success with others | **1** | **3** | **17** | 4.67 |
| 5. Cooperates with others | **1** | **5** | **15** | 4.57 |
| 6. Encourages participation among all participants | **1** | **5** | **15** | 4.57 |
| 7. Shares information with others | **1** | **4** | **16** | 4.62 |
| 8. Reinforces the contributions of others | **1** | **3** | **17** | 4.67 |
| 9. Involves others in decisions that affect them | **1** | **1** | **19** | 4.76 |
| 10. Encourages others to express their views even when they are contrary to his/her own | **1** | **3** | **16** | 4.65 |
| **Average Grade (Maximum 5)** | 4.58 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not Meet Expectations (0-3)** | **Meet Expectations (3-4.6)** | **Exceed Expectations (4.6-5)** |
| **Total Students by Category**(Based on Average score across all traits) | **1** | **4** | **16** |

**COMMENTS: For objective #2, and for students in the Section A, the traits that need to be improved are #2, #3.**

**REMEDIAL ACTIONS:**  Shall teach students on how to handle conflicts in opinions while maintaining their own viewpoint. Shall guide them on how to reach consensus among group members.

**LEARNING OBJECTIVE # 2:** *Students will be able to facilitate relationship building (team facilitation) within the context of project teams.*

**ASSESSMENT DATE: 1/18/2022 ASSESSOR: Zhenyu Cui**

**NO. OF STUDENTS TESTED: \_8\_ with all data available. Course: FA 541-WS**

|  |  |  |
| --- | --- | --- |
|  | **Number of Students** |  |
| **Learning Goal Traits** | **Not Meet Expectations** | **Meet Expectations** | **Exceed Expectations** | **Avg. Grade on Trait** |
| 1. Conveys interest in what others are saying | **0** | **1** | **7** | 4.875 |
| 2. Encourages ideas and opinions even when they differ from his/her own | **0** | **3** | **5** | 4.625 |
| 3. Works towards solutions and compromises that are acceptable to all involved | **0** | **3** | **5** | 4.625 |
| 4. Shares credit for success with others | **0** | **0** | **8** | 5 |
| 5. Cooperates with others | **0** | **1** | **7** | 4.875 |
| 6. Encourages participation among all participants | **0** | **1** | **7** | 4.875 |
| 7. Shares information with others | **0** | **3** | **5** | 4.625 |
| 8. Reinforces the contributions of others | **0** | **2** | **6** | 4.75 |
| 9. Involves others in decisions that affect them | **0** | **0** | **8** | 5 |
| 10. Encourages others to express their views even when they are contrary to his/her own | **0** | **3** | **5** | 4.625 |
| **Average Grade (Maximum 5)** | 4.7875 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not Meet Expectations (0-3)** | **Meet Expectations (3-4.6)** | **Exceed Expectations (4.6-5)** |
| **Total Students by Category**(Based on Average score across all traits) | **0** | **1** | **7** |

**COMMENTS: For students in web section, traits #2 and #3 and #7 need more work.**

**REMEDIAL ACTIONS:**  Besides the remedial actions described above for traits #2 and #3, we shall also teach students on means to share and connect with other group members when working in a virtual setting.

**LEARNING OBJECTIVE # 2:** *Students will be able to facilitate relationship building (team facilitation) within the context of project teams.*

**ASSESSMENT DATE: 1/18/2022 ASSESSOR: Zhenyu Cui**

**NO. OF STUDENTS TESTED: \_29\_ with all data available. Course: FA 541-A and WS combined**

|  |  |  |
| --- | --- | --- |
|  | **Number of Students** |  |
| **Learning Goal Traits** | **Not Meet Expectations** | **Meet Expectations** | **Exceed Expectations** | **Avg. Grade on Trait** |
| 1. Conveys interest in what others are saying | **1** | **2** | **26** | 4.82 |
| 2. Encourages ideas and opinions even when they differ from his/her own | **1** | **10** | **18** | 4.55 |
| 3. Works towards solutions and compromises that are acceptable to all involved | **1** | **12** | **16** | 4.34 |
| 4. Shares credit for success with others | **1** | **3** | **25** | 4.83 |
| 5. Cooperates with others | **1** | **6** | **22** | 4.72 |
| 6. Encourages participation among all participants | **1** | **6** | **22** | 4.73 |
| 7. Shares information with others | **1** | **7** | **21** | 4.62 |
| 8. Reinforces the contributions of others | **1** | **5** | **23** | 4.71 |
| 9. Involves others in decisions that affect them | **1** | **1** | **27** | 4.88 |
| 10. Encourages others to express their views even when they are contrary to his/her own | **1** | **6** | **21** | 4.64 |
| **Average Grade (Maximum 5)** | 4.68 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not Meet Expectations (0-3)** | **Meet Expectations (3-4.6)** | **Exceed Expectations (4.6-5)** |
| **Total Students by Category**(Based on Average score across all traits) | **1** | **5** | **23** |

**COMMENTS: Overall, combing both Section A and Section WS, the traits #2, #3, #7 need to be improved.**

**REMEDIAL ACTIONS:**  Teach students on how to handle conflicts in opinions while maintaining their own viewpoint. Guide them on how to reach consensus among group members. Inform students on how to share and connect with other group members when working in a virtual setting.

7. Outcomes from Previous Assessments:

The following table shows the average scores on each goal objective.

|  |  |  |
| --- | --- | --- |
|  | Objective 1:Students will be able to facilitate task accomplishment (team leadership) within the context of project teams | Objective 2:Students will be able to facilitate relationship building (team facilitation) within the context of project teams. |
| Fall 2021 |  |  |

8. Close Loop Process – Continuous Improvement Record

Assurance of Learning

Assessment/Outcome Analysis

Close Loop Process - Continuous Improvement Record

**Program:** Master of Science in Financial Analytics

**Goal 1:** Our students will interact effectively in teams.

**Goal Owner:**

**Where Measured:** Student groups in **FA 541** will be assessed for effective team interaction by their fellow team members.

**How Measured:** Team projects will be used as the basis for assessment using the rubric attached. Individual students will be assessed on behaviors that relate to facilitating task accomplishment and relationship building

**Closing the Loop: Actions taken on specific objectives**

|  |  |
| --- | --- |
| **Objective 1** | Students will be able to facilitate task accomplishment (team leadership) within the context of project teams |
| **When Assessed:** | *Fall 2021* |
| **Remedial****Action** | Similar to before, we shall draw students attentions to how to interpret different problem through their internal connections, and also motivate students to try new methods to tackle the problem |
| **Outcome from previous assessment** |  |
| **Objective 2** | Students will be able to facilitate relationship building (team facilitation) within the context of project teams. |
| **When Assessed:** | *Fall 2021* |
| **Remedial****Action** | Teach students on how to handle conflicts in opinions while maintaining their own viewpoint. Guide them on how to reach consensus among group members. Inform students on how to share and connect with other group members when working in a virtual setting. |
| **Outcome from previous assessment** |  |