Stevens Institute of Technology

School of Business

**AACSB  
ASSURANCE OF LEARNING PLAN**

**Bachelors of Science in Quantitative Finance**

**(QF)**

June, 2024

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# 1. INTRODUCTION AND OVERVIEW OF QF DEGREE

The Stevens QF program has been designed to provide students with a thorough and rigorous foundation in this multi-disciplinary field. Students will be selected for strong quantitative aptitude, high motivation and work ethic, and a strong interest in the field of Computer Science, Business and Finance. Over the course of eight semester terms, through approximately 135 credit-hours of course work, students may choose to follow one out of main “threads” in the QF curriculum.

Accounting: this thread draws on the advanced accounting curriculum and is designed to give an in depth look into the field of accounting. Students will begin with intermediate Accounting 1 and 2 and choose from electives that will focus on specialized areas in accounting.

Quantitative Methods: this thread draws on the curriculum of Stevens’ Mathematics department and includes a minimum of one year of calculus, and one year of probability and statistics. Electives in this thread extend to more advanced calculus (multivariable, stochastic) and other quantitative techniques used in advanced financial applications.

Computer Science: this thread draws on the curriculum offered by the Stevens Computer Science department (in the School of Science and Engineering). It begins at the introductory level, building to a reasonable proficiency in C++, basic financial modeling tools and techniques, and an intermediate level of proficiency in web- based programming; beyond the required core. There are elective courses in fields such as data mining, machine learning and computerized trading platform architectures for students interested in developing advanced computer science capabilities.

Finance & Economics: this thread draws on the Business & Technology Program. It encompasses the standard business and finance foundation disciplines such as accounting, economics, corporate and international finance and capital markets—as well as QF—specific topics such as financial engineering, risk management, and market regulation & securities law.

# 2. OVERVIEW OF QF ASSURANCE OF LEARNING PLAN

# 

|  |  |  |
| --- | --- | --- |
|  | **Credits** | **Courses** |
| **QF Business** | 135 | 48 |

**School of Business Vision**

To be a leading business school widely recognized for superior technology-focused and student-centric educational programs and research.

**QF Vision**

We will be recognized as a worldwide leader in undergraduate education for quantitative and technologically advanced applications in the field of finance – what we will refer to as the QF domain.

**QF Competency goals**

The Competency goals for the QF program are listed in Table 1. Note that two of the QF goals are the same as those for the Business School. Competency goal 3 is a specialized version of the school-wide goals HS3 and HS4.

The structure of the goals will remain the same across all programs:

* Soft Skills
  + Goal 1 Will communicate effectively in writing and oral presentation
  + Goal 2 Will be able to interact effectively in teams
* Critical thinking and integrative skills
  + Goal 3 Students are able to develop and use financial models and technical systems from a perspective of a broad critical understanding of the financial system.

We added several specific competencies, detail the indirect measures we use to assess the competencies and, how to track these when we discuss the goals in section 7.

**Table 1: QF Competency goals**

|  |
| --- |
| **Quantitative Finance Program Competency goals** |
| QF - 1. Students can communicate effectively in written and oral presentations. |
| QF - 2. Students can interact effectively in teams. |
| QF– 3. Students are able to develop and use financial models and technical systems from a perspective of a broad critical understanding of the financial system. |
|  |

We added several specific competencies, detailed the indirect measures to assess

the competencies and, how to track these when we outline the goals in section 7.

# 3. QF ASSURANCE OF LEARNING ASSESSMENT PLAN

**Table 2: QF Assurance of Learning Assessment Plan - Goals 1 through 3**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **COMPETENCY GOAL** | **Where Measured** | **When measured?** | **Sampling** | **Measuring & Validation Plan** | **Criterion** |
| QF - 1. Students can communicate effectively in writing and in oral presentations.  [Responsibility: Stein and Calhoun] | Assessed in QF 101/102. | Fall Semester, annually | All students in QF101/102 | For writing: a formal assessments of written communication skills will take place in QF 101/102  .  For Presentations: Oral presentation skills will be formally assessed by faculty and expert panels in QF101/102. A CAL faculty member reviews presentations and complete rubrics for each student. | For both the oral and written test, 80% of students must receive a grade of “A” or “B”. Students receiving “C” or “D” grades are given remedial training.  For writing: A score of 20/40 must be achieved or else completion of Tech Writing Webinar is required.  For Presentations: A score of 20/50 must be achieved or else students are required to submit a reflective essay on the presentation and their plan for improving their skills. |
| QF - 2. Students can interact effectively in teams.  [Responsibility Anderson] | Required QF spine courses QF 200 | Fall Semester, annually | All students in QF 200 | All students in QF 200 take a team performance questionnaire at the end of the course. Questions address 2 key team behavior traits: task facilitating behaviors and relationship facilitating behaviors.  The test will be administered using survey monkey and imported into excel. | Faculty receive overall reports. Students study effective teams which emphasize task accomplishment and relationship building behaviors and incorporate as a part of a final paper. 85 % of students get a grade of at least good on the rubric. |
| QF - 3. Students are able to develop and use financial models and technical systems  [Responsibility Feinstein] | QF 301 | Fall Semester, annually | All students QF 301 | Project assignments in QF 301, involving the construction of financial models using financial time series data | 85% of students get a grade of GOOD or better as measured by the rubric for this competency goal |

# 4. QF CURRICULUM ALIGNMENT MAP

**Table 3: QF Curriculum Alignment Map Fall 2022**

|  |  |  |  |
| --- | --- | --- | --- |
| **Goals/**  **QF Courses** | QF - 1. Students can communicate effectively in written and oral presentations. | QF - 2. Students can interact effectively in teams. | QF - 3. Students are able to develop and use financial models and technical systems |
| QF 101, QF 102  Intro to Quantitative Finance I & II  (Calhoun) | Formal team presentations are required several times in the course of the semester, addressing unstructured and structured group problems in finance. | Team performances are assessed competitively, against rubrics appropriate to each problem. | Wall Street Journal, Financial Times and other sources, applied in unstructured or semi-structured problem solving to develop breadth of critical thinking | |
| QF 103  Intro to Financial Tools and Technology |  |  | Simple financial portfolio models constructed using the basic financial tools described at left | |
| QF 104  Data management in R |  |  | Simple financial portfolio models constructed using the basic financial tools described at left | |
| **QF 106**  **Fundamentals of Probability for Finance**  **(Lonon)** |  |  | Students learn introductory probability concepts which will be necessary for later models and systems | |
| QF 112  Statistics in Quantitative Finance  (Lonon) |  |  | Students learn hypothesis testing and measures of centrality, which will later allow them to determine which model or system is optimal | |
| QF 200 Financial Econometrics (Anderson) | Presentations of a group project | Students work in teams on a project | Application of Quantitative Methods and Computer Science skill sets for the development of basic and intermediate financial modeling techniques | |
| QF 202  Introduction to Financial Time Series (Florescu) |  | Students work in teams on a project | Application of Quantitative Methods and Computer Science skill sets for the development of basic and intermediate financial modeling techniques | |
| **QF 212 Advanced Probability and Stochastic Processes for QF (Lonon)** |  |  | Students learn more advanced probability as well as introductory stochastic processes in order to better understand modeling of stock processes and pricing methodologies | |
| QF 301, 302  Advanced Time Series Analytics and Machine Learning (Feinstein)  Financial Market Microstructure and Trading (Pirjol) |  |  | Application of Quantitative Methods and Computer Science skill sets for the development of advanced time series and micro-structure financial modeling techniques | |
| QF 343 Introduction Stochastic Calculus for QF (Lonon) |  |  | Black-Scholes-Merton, Vasicek, CIR, Hull-White, etc. | |

|  |  |  |  |
| --- | --- | --- | --- |
| MGT 411, MGT 412  Senior Design I, II  (Murphy) | Student teams must present complex solutions and designs for a defined financial model or technical system, in a graded series of presentations, culminating in a capstone presentation to a faculty/expert panel. | Team performance is evaluated as an independent component of the Final design project, in a graded series of presentations, culminating in a capstone presentation to a faculty/expert panel. | Comprehensive Application of Quantitative Methods and Computer Science skill sets for the development of professional-grade financial modeling and technical systems applications |
| QF 427/428  Student managed investment  Fund  (Kaufman) | Written reports on what stocks they wish to trade | Work in teams to develop strategies and manage the portfolios. | All tools and analytics learned throughout the curriculum are used as the teams invest real money in the stock market. |
| QF 430  Introduction to Derivatives (Goel) |  |  | Modeling of derivatives and related financial instruments and trading strategies |
| QF 435 Risk Management for Capital Markets (Pirjol) |  |  | Risk Models |
| MA 121-122,125-126, 221, MA 225, 231, CS 115 or CS 181 |  |  | Necessary for model building |
| **MGT 300**  **Business communication**  **(McBryan)** | Students center on communicating effectively in written and oral presentations. |  |  |

Ethics and global threads appear next

# 5. Ethics Thread Fall 2022

The QF program also takes great effort to address the importance of Business Ethics. The following table shows the courses where ethics is explicitly addressed.

|  |  |
| --- | --- |
| **Goals/** | Students are aware of social responsibilities in a business environment and can reason about ethical issues. |
| QF 101, QF 102  Intro to Quantitative Finance I & II  (Calhoun) | General overview of ethical issues associated with modern financial markets, including issues involving insider information, financial disclosure, and accounting standards |
| QF 103  Intro to Financial Tools and Technology | Integrity of data sources, critical thinking regarding the use of nonstandard data |
| QF 104  Data management in R | Transparency of financial modeling |
| QF 200, 202  Financial Econometrics (Anderson)  Introduction to Financial Time Series (Florescu) | Proper understanding of statistical methods and issues associated with transparent presentation of statistical findings |
| QF 301, 302  Advanced Time Series Analytics and Machine Learning (Feinstein)  Financial Market Microstructure and Trading (Pirjol) | Ethical issues associated with management of order books, market microstructure, and market making principles (e.g., dealing with concerns about front-running) |
| QF 435  Introduction to Derivatives (Goel) | General treatment of risk, focusing on appropriate ethical questions involved in auditing financial transactions and models |
| MGT 411, MGT 412  Senior Design I, II  (Murphy) | Ethics of research — including questions of proper attribution, copyright concerns, the use of confidential data sets, transparency of results and reproducibility |
| QF 427/428  Student managed investment  Fund (Kaufman) | Ethical issues associated with a proper understanding of the Fiduciary role of asset managers; also ethics of financial reporting, audibility, transparency |
| MGT300 Business Communications  (McBryan) | Students learn better communication skills while analyzing case studies centered on Ethics concerns |

**6. Global Thread – Fall 2022**

**Another thread that runs through the BSB Program are global considerations. Following is a chart that maps our courses to global coverage using the legend below.**

**Legend**

Shape

Description automatically generated with medium confidence – Entirely Global Content

 – Significant parts are global

 – Some global content

|  |  |  |
| --- | --- | --- |
| **Course** | **Legend** | **Notes** |
| QF 101, QF 102  Intro to Quantitative Finance I & II  (Calhoun) |  |  |
| QF 103  Intro to Financial Tools and Technology |  |  |
| QF 104  Data management in R |  |  |
| QF 200, 202  Financial Econometrics (Anderson)  Introduction to Financial Time Series (Florescu) |  |  |
| QF 301, 302  Advanced Time Series Analytics and Machine Learning (Feinstein)  Financial Market Microstructure and Trading (Pirjol) |  |  |
| QF 435  Introduction to Derivatives (Goel) |  |  |
| MGT 411, 412  Senior Design I, II  (Murphy) |  |  |
| QF 427/428  Student managed investment  Fund (Kaufman) |  |  |

# 7. QF COMPETENCY GOALS, OBJECTIVES AND RUBRICS

Goal 1: Objectives and Traits

|  |  |
| --- | --- |
| Competency goal 1: Communicate effectively in writing and oral presentations. | |
| Competency goal 1 has 2 Objectives, as follows: | |
| Objective 1: | *Students will be able to write effectively.* |
| Traits |  |
| Trait 1: | Logical flow |
| Trait 2: | Grammar and sentence structure |
| Trait 3: | Spelling and word choice |
| Trait 4: | Development of ideas |
|  |  |
| Objective 2: | *Students will be able to deliver presentations effectively.* |
| Traits |  |
| Trait 1: | Organization and logic |
| Trait 2: | Voice quality |
| Trait 3: | Physical presence |
| Trait 4: | Use of slides to enhance communications |
| Trait 5: | Transitions/ Time Management/ Q/A |
|  |  |

Explanation for indirect measurements:

Indirect measurements will be taken at periodic intervals. The indirect measurement currently being implemented is exit interviews, which will be discussed in greater detail in section 9.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Competency goal 1Rubric | | | | | | | | |
| QF – 1 | | Students can communicate effectively in writing and oral presentations | | | | | | |
| Objective 1: *Students will be able to write effectively* | | | | | | | | |
|  | | Trait | Poor | | | Good | | Excellent |
|  | | Value | 0 | | | 5 | | 10 |
| Trait 1: | | Logical flow | Unclear introduction or conclusion. Does not use a sequence of material to lead reader through the paper. Draws illogical conclusions | | | Develops ideas through effective use of paragraphs, transitions, opening and concluding statements. Generally well structured to suggest connection between sub-topics. | | Maintains clear focus, uses structure to build the paper's conclusions. Presents analysis using sequence of ideas, clarity of flow and continuous voice or point of view. |
| Trait 2: | | Grammar and sentence structure | Frequently uses inappropriate grammar and incomplete or poorly structured sentences which interfere with comprehension. | | | Generally complies with standard English and grammar and sentence usage. | | Sophisticated use of English language, using varied sentence structured, phrasing and cadence. Grammar is error-free |
| Trait 3: | | Spelling and word choice | Frequent misspellings. Poor or limited choice of words for expression ideas. | | | Has proofread or checked spelling, and uses vocabulary correctly. Minor errors. | | Demonstrates good use of words to support written expression of topic. Spelling is error-free. |
| Trait 4: | | Development of ideas | Many unsupported statements offered. Uses flawed or unclear reasoning. | | | Most statements supported, ideas explained with examples and written with sufficient explanation. | | Shows thoughtful reasoning and explores alternatives. Uses existing, supported ideas to develop well-formed, readable output. |
| Criterion: | Does not meet expectations: 0 – 15; Meets: 16-30 ; Exceeds: 31-40 | | | | | | |
| Objective 2 | *Students will be able to deliver presentations effectively* | | | | | | |
|  | Trait | | Poor | Good | | Excellent | |
|  | Value | | 0 | 5 | | 10 | |
| Trait 1: | Organization and logic | | Fails to introduce topic; no evidence of or poor logical flow of topic. | Prepares listeners for sequence and flow of topic. Loses place occasionally but flow and structure are still clear. | | Engages listeners with overview, guides listeners through connections between sections, and alerts audience to key details and concepts. | |
| Trait 2: | Voice Quality | | Cannot be heard or understood well due to volume, mumbling, speed, monotone delivery, and/or heavily accented English. | Clear delivery with well-modulated voice. Displays some confidence and enthusiasm, but may also contain flatter periods or sound overly rehearsed. | | Exemplary delivery, with a voice that sounds fully engaged, conveys enthusiasm and confidence, and relates to the audience well. | |
| Trait 3: | Physical Presence | | Turns away from audience or uses distracting gestures, such as pacing or tugging clothing. Speaker seems stiff, awkward or uncomfortable. Little eye contact. | Speaker is relaxed in front of the room and keeps distracting movements and gestures to a minimum. Generally faces audience and makes eye contact. | | Speaker’s body language is superb and fully engages the room. Strong, consistent eye contact to the entire audience. Uses confident gestures to underscore key verbal points. | |
| Trait 4: | Use of slides to enhance communications | | Misspelled, too busy, too much text, too many slides for allotted time, and/or poor use of graphics like charts. | Slides are readable, containing a reasonable amount of material per slide. Good use of graphics or illustrations. | | Slides are well written/designed, engaging to the audience, and used as support to verbal content presentation. | |
| Trait 5: | Transitions Time Management Q&A | | Transitions are awkward or non-existent. Speakers go over time limits. Answers are disorganized or non-responsive. | Transitions are smooth. Speakers generally stay within time limits. Speakers respond to questions well and provide sufficient response. | | Transitions are professional and very smooth. Speakers respond convincingly and address all aspects of question. | |
| Criterion: | Does not meet expectations: 0 – 19; Meets: 20-35 ; Exceeds: 36-50 | | | | | | |
|  |  | | | | | | |

COMPETENCY GOAL #2 – Goal and Objectives using the Automated Team Survey

See traits lower down

|  |  |
| --- | --- |
| Competency goal 2: Students can interact effectively in teams. | |
| Objectives |  |
| Objective 1: | *Students will be able to facilitate task accomplishment within the context of project teams* |
| Objective 2: | *Students will be able to facilitate relationship building within the context of project teams.* |
|  |  |

In addition, there are specific competencies that are needed in teamwork that this goal will address. The skills that are targeted are task management skills, and relationship management skills. Task management skills include: clarifying roles and responsibilities of others; suggesting new approaches to solving problems; defining task priorities for work sessions and or projects. Relationship management skills include: working towards solutions and compromises that are acceptable to all involved; reinforcing the contributions of others; encouraging ideas and opinions even when they differ from his/her own.

Indirect measurements will be taken at periodic intervals. The indirect measurement currently being implemented is exit interviews, which will be discussed in greater detail in section 9.

RUBRIC

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. |

COMPETENCY GOAL # 3: Objectives and Traits

|  |  |
| --- | --- |
| Competency goal 3: Students are able to develop and use financial models and technical systems from a perspective of a broad critical understanding of the financial system. | |
| Objective 1: *Students can design and implement financial models that address significant problems or requirements in the current financial industry.* | |
| Traits |  |
| Trait 1: | Students have the ability to identify and formulate important modeling challenges that are highly relevant to the current financial industry. |
| Trait 2: | Students can design models that effectively address these challenges and produce useful results. |
| Trait 3: | Students can interpret the results in terms of broader policy or strategy implications for the financial industry (including regulatory and compliance perspectives). |
| Objective 2: *Students develop a strong global understanding of the financial system.* | |
| Traits |  |
| Trait 1: | Students have a good framework for understanding trends in financial technology. |
| Trait 2: | Students have a good framework for understanding trends in financial regulation. |
| Trait 3: | Students have a good framework for understanding trends in financial markets. |

Indirect measurements will be taken at periodic intervals. The indirect measurement currently being implemented is exit interviews, which will be discussed in greater detail in section 9.

3. RUBRICS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Objective 1: *Students can design and implement financial models that address significant problems or requirements in the current financial industry.* | | | | | |
|  | Trait | Poor | Good | Excellent | Score |
|  | Value | 0 | 5 | 10 |  |
| Trait 1: | Students have the ability to identify and formulate important modeling challenges that are highly relevant to the current financial industry. | Students are unable to identify, or coherently formulate specifications for, important modeling challenges in finance. | Students are reasonably good at identifying important financial challenges, and have some ability to specify the appropriate models. | Students can both identify important financial challenges, and can specify coherently the requisite models. |  |
| Trait 2: | Students can design models that effectively address these challenges and produce useful results. | Students are unable to design and complete financial models for pragmatically important problems. | Students show some ability to design useful models for pragmatically important problems. | Students are quite competent at modeling complex and pragmatically important problems in the financial domain. |  |
| Trait 3: | Students can interpret the results in terms of broader policy or strategy implications for the financial industry (including regulatory and compliance perspectives). | Students are ineffective at interpreting model results for their practical policy implications. | Students show some facility in providing useful interpretations of modeling results. | Students are able to provide excellent, coherent policy advice based on the results of their models. |  |
| Criterion: Does not meet expectations: 0 – 15; Meets: 15-20; Exceeds: 20-30 | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Objective 2: *Students develop a strong global and systemic understanding of the financial system.* | | | | | |
|  | Trait | Poor | Good | Excellent | Score |
|  | Value | 0 | 5 | 10 |  |
| Trait 1: | Students have a good framework for understanding trends in financial technology. | Students do not demonstrate an understanding of financial technologies and their impacts on the industry. | Students have some facility in interpreting the significance of trends and problems in financial technologies for the financial industry. | Students have an excellent and coherent perspective on the role of technology in finance. |  |
| Trait 2: | Students have a good framework for understanding trends in financial regulation. | Students do not demonstrate an understanding of financial regulation and its impacts on the industry. | Students have some facility in interpreting the significance of trends and problems in financial regulation for the financial industry. | Students have an excellent and coherent perspective on the role of regulation in finance. |  |
| Trait 3: | Students have a good framework for understanding trends in financial markets. | Students do not demonstrate an understanding of the dynamics of financial markets. | Students have some facility in interpreting the significance of trends and problems in financial markets. | Students have an excellent and coherent perspective on the dynamics of financial markets |  |
| Criterion: Does not meet expectations: 0 – 15; Meets: 15-20; Exceeds: 20-30 | | | | | |

# 8. RESULTS OF AACSB COMPETENCY GOAL ASSESSMENTS

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

**Explanation**

Each competency 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 competency 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 suggest content or pedagogy changes for the next time the course is given.

**Additionally, as described above,** indirect measurements will be taken at periodic intervals for all goals. The indirect measurement currently being implemented is exit interviews, which will be discussed in greater detail in section 9.

**School of Business**

**RESULTS OF AACSB COMPETENCY GOAL Direct ASSESSMENT**

**Here the results for Fall 2022 will appear by competency goal (in a separate document sent to the AOL coordinator) for example:**

*Our students will communicate effectively in written and oral communications.*

**LEARNING OBJECTIVE #1:***Students will be able to write effectively.*

**ASSESSMENT DATE:**

**ASSESSOR:**

**NUMBER OF STUDENTS & COURSE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Competency goal Traits** | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** | **Average Grade** |
| 1: Logical flow |  |  |  |  |
| 2: Grammar & Sentence Structure |  |  |  |  |
| 3: Spelling & word choice |  |  |  |  |
| 4: Development of ideas |  |  |  |  |
| **Average Grade (Out of 10) =** | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category**  *(Based on average score across all traits)* |  |  |  |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE #2:***Students will be able to deliver presentations effectively.*

**ASSESSMENT DATE:**

**ASSESSOR:**

**NUMBER OF STUDENTS & COURSE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Competency goal Traits** | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** | **Average Grade** |
| 1: Organization & Logic |  |  |  |  |
| 2: Voice Quality |  |  |  |  |
| 3: Physical Presence |  |  |  |  |
| 4: Use of Slides to Enhance Comm |  |  |  |  |
| 5: Transitions, Time Mgt, Q&A |  |  |  |  |
| **Average Grade (Out of 10) =** | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category**  *(Based on average score across all traits)* |  |  |  |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**School of Business**

**RESULTS OF AACSB COMPETENCY GOAL Direct ASSESSMENT**

**Here the results for Fall 2022 will appear by competency goal for example:**

**COMPETENCY GOAL #1:***Our students will communicate effectively in written and oral communications.*

**LEARNING OBJECTIVE #1:***Students will be able to write effectively.*

**ASSESSMENT DATE:**

**ASSESSOR:**

**NUMBER OF STUDENTS & COURSE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Competency goal Traits** | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** | **Average Grade** |
| 1: Logical flow |  |  |  |  |
| 2: Grammar & Sentence Structure |  |  |  |  |
| 3: Spelling & word choice |  |  |  |  |
| 4: Development of ideas |  |  |  |  |
| **Average Grade (Out of 10) =** | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category**  *(Based on average score across all traits)* |  |  |  |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE #2:***Students will be able to deliver presentations effectively.*

**ASSESSMENT DATE:**

**ASSESSOR:**

**NUMBER OF STUDENTS & COURSE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Competency goal Traits** | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** | **Average Grade** |
| 1: Organization & Logic |  |  |  |  |
| 2: Voice Quality |  |  |  |  |
| 3: Physical Presence |  |  |  |  |
| 4: Use of Slides to Enhance Comm |  |  |  |  |
| 5: Transitions, Time Mgt, Q&A |  |  |  |  |
| **Average Grade (Out of 10) =** | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category**  *(Based on average score across all traits)* |  |  |  |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**COMPETENCY 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: May 2022 ASSESSOR: Pape Ndiaye**

**NO. OF STUDENTS TESTED: Course: FE630 Section A on Campus**

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

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Failed to Meet Expectations** | **Meet Expectations** | **Exceed Expectations** |
| **Total Students by Category** (Based on Average score across all traits) |  |  |  |

**COMMENTS:**

**REMEDIAL ACTIONS:**

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

**ASSESSMENT DATE:**

**ASSESSOR:**

**NO. OF STUDENTS TESTED: Course:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Competency goal Traits** | Failed to Meet Expectations | Met Expectations | Exceeded Expectations | Average Score |
| 1. Conveys interest in what others are saying |  |  |  |  |
| 2. Encourages ideas and opinions even when they differ from his/her own |  |  |  |  |
| 3. Works towards solutions and compromises that are acceptable to all involved |  |  |  |  |
| 4. Shares credit for success with others |  |  |  |  |
| 5. Cooperates with others |  |  |  |  |
| 6. Encourages participation among all participants |  |  |  |  |
| 7. Shares information with others |  |  |  |  |
| 8. Reinforces the contributions of others |  |  |  |  |
| 9. Involves others in decisions that affect them |  |  |  |  |
| 10. Encourages others to express their views even when they are contrary to his/her own |  |  |  |  |
| **Average Grade (Maximum 5)** | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Failed to Meet Expectations** | **Meet Expectations** | **Exceed Expectations** |
| **Total Students by Category** (Based on Average score across all traits) |  |  |  |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**COMPETENCY GOAL #3:***Students are able to develop and use financial models and technical systems from a perspective of a broad critical understanding of the financial system.*

**LEARNING OBJECTIVE #1:***Students develop sound financial time series models based on major economic and financial trends and events.*

*.*

**ASSESSMENT DATE:**

**ASSESSOR:**

**NUMBER OF STUDENTS TESTED:   
COURSE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Competency goal Traits** | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** | **Average Grade** |
| Student identifies appropriate models for the time series under study |  |  |  |  |
| Student tests alternative models and selects best model |  |  |  |  |
| Student forecasts time series with selected model and uses forecast to solve a specific financial problem (i.e. design at least a trading strategy). |  |  |  |  |
| **Average Grade (Out of 10) =** | | | |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not Meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category**  *(Based on average score across all traits)* |  |  |  |

**COMMENTS:**

**REMEDIAL ACTIONS:**

# 9. Indirect Measurements

*Indirect Measurements:*

* Currently we are using exit interviews, collected from the QF students who have graduated in the last year.

*How we use them in our programs:*

* Assessing the students’ experiences at Stevens
* Allow for a rating of satisfaction with the various aspects of the program
* Determine any deficiencies in the coursework, from their viewpoint
* Determine average compensation of our graduates

# 10. Competencies

1. COPA’s tools like 12Twenty, which record placement outcomes for our students
2. We publicize the employment rate and starting salary of our students
3. We highlight exemplary students with awards for academic achievement and for commitment to leadership and service
4. Success in the CFA and FRM exams that our students take, which is a result of studying in our programs. The best students are selected for scholarships in these exams

# 11. Engagement, Innovation, and Impact

* Engagement
  + We engage students with the ability to assist professors in teaching courses that they have done well in
  + We engage current students in clubs,
  + Capstone projects in the senior design has them work on industry projects
  + Faculty meetings: we engage faculty in curriculum development, revamping, and enhancements
  + Finance Board Members: we engage them in curriculum development by regularly seeking their input to curriculum initiatives we are undertaking
* Innovation
  + Lab courses: they provide skills to incoming students and ensure the graduates are better positioned to compete for jobs; they are offered across all three financial programs
  + Having Ph.D. students help develop practical problems that test the skills learned in classes
* Impact
  + Outcomes: We enhance student skills to get better jobs and positively contribute to economy and society
  + Business School Rankings: improvement through the year because of our efforts
  + Our Sustainability Offering: this ensures that students are informed about ways to better society
  + By being responsible for senior design projects, our students will gain skills in doing independent research. In addition, they will learn how best to effectively convey their ideas to an audience.
  + Through teamwork, they learn collaborative practices.
  + The analytical skills our students learn will allow them to excel in their given fields, as we have prepared them to be able to handle all sorts of situations. Their math and computer science skills translate to working in the quantitative finance domain.