Stevens Institute of Technology

School of Business

**AACSB
ASSURANCE OF LEARNING PLAN**

**Graduate**

**Master of Science in Accounting & Analytics**

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# Overview of the Master of Science in Accounting & Analytics (MSAA)

The vision of the School of Business is as follows: To be a leading business school widely recognized for superior technology-focused and student-centric educational and research programs.

The Mission statement of the School of Business is as follows: We impact industry, academia and society through business education and scholarship in a technology-driven economy.

The Master of Science in Accounting and Analytics (MSAA) is a 30-credit program that provides an opportunity to learn analytical skills which are increasingly applicable to accounting, auditing, and financial reporting in the data-intensive business environment. The program provides alignment with the "Core + Discipline" CPA exam structure.

The MSAA core consists of 6 required courses (18 credits of the total 30 credits) and 4 electives. Electives that are aligned with the three disciplines in the CPA “Core+ Discipline” exam model are designated accordingly in the list below: (1) BAR (Business Analysis and Reporting); (2) TCP (Tax and Compliance)/Wealth Management; (3) ISC (Information Systems and Controls). The Stevens Courses aligned with each discipline were selected based on a comparison of course learning objectives with the learning objectives specified in the AICPA “model curriculum.” All courses in this proposal are existing courses.

|  |  |  |
| --- | --- | --- |
| Course number | Course name | Note |
|  | **Core Courses** |  |
| ACC 535 | Accounting Data Analytics and Information Systemsa | Core |
| ACC 552 | Tax Compliance and Planning for Business Entitiesa | Core |
| ACC 620 | Accounting Regulations: Research and Applicationsa | Core |
| ACC 555 | Retirement and Estate Planningb | Core: Select one |
| ACC 585 | Fraud Examination and Forensic Investigationb |
| ACC 510 | Financial Statement Analysisb | Core: Select one |
| BIA 500 | Business Analytics: Data, Models & Decisionsb |
| MIS 637 | Data Analytics and Machine Learningb |
| BIA 652 | Multivariate Data Analysis Ic | Core: Select one |
| FA 541 | Applied Stats with Applications in Financec |
|  | **Elective Courses** |  |
| BIA 500 | Business Analytics: Data, Models & Decisions (if not taken as core)d | Electives aligned with BAR (Business Analysis and Reporting) Discipline |
| BIA 610 | Applied Analyticsd |
| FA 550 | Data Visualization Applicationsd |
| FE512 | Database Engineeringd  |
| MIS 631/2 | Data Management/Labd |
| MIS 633/4 | Business Intelligence and Data Integration/Lab d  |
| FIN 560 | Federal Taxation of Individuals for Financial Planninge | Electives aligned with TCP (Tax and Compliance) Discipline  |
| MGT 700 | Econometricse  |
| FIN 565 | Financial Plan Developmente |
| FIN 550 | Financial Planning and Risk Managemente |
| FA 631 | Investment, Portfolio Construction, and Trading Analyticse |
| FIN 658 | Wealth Management Principles and Practicese |
| MIS 631/2 | Data Management/ Labf | Electives aligned with ISC (Information Systems and Controls)Discipline |
| BIA 668 | Management of AI Technologiesf |
| FE512 | Database Engineeringf  |
| MIS 637 | Data Analytics and Machine Learning (if not taken as part of Core)f |
| MIS 645 | Cyber Security Principlesf |
| MIS 716 | Blockchain Fundamentals and Applicationsf |
| MIS 720 | Managing Enterprise Network Security Architecturesf |
| MIS 760 | Information Technology Strategyf |
| MGT 609 | Project Management g | General business electives  |
| MGT 671 | Technology & Innovation Management g |
| MGT 699 | Strategic Management g |
| *below* | Three 1-credit Hanlon Financial Lab courses – applied software |

a Core, required for all MSAA students.

b For Core, select one. A course not taken as Core can be considered as an elective. Learning objectives of ACC 585 are broadly aligned with certain objectives in the BAR and ISC discipline; learning objectives of ACC 555 are broadly aligned with certain objectives in the TCP discipline.

c For Core, select one. Recommended lab FE 515 Introduction to R.

d Electives broadly aligned with BAR (Business Analysis and Reporting) discipline

e Electives broadly aligned with TCP (Tax and Compliance) discipline

f Electives broadly aligned with ISC (Information Systems and Controls) discipline

g General business electives approved for the MSAA program

h Applied financial software lab courses include: FE511 Introduction to Bloomberg and Thomson Reuters (1 credit); FE513 Financial Lab: Database Design (1 credit); FE514 Financial Lab: to be renamed Advanced Excel for Finance (1 credit); FE515 Introduction to R (1 credit); FE516 MATLAB for Finance (1 credit); FE517 SAS for Finance (1 credit); FE518 Mathematica for Finance (1 credit); FE519 Advanced Bloomberg (1 credit); FE520 Introduction to Python for Financial Applications (1 credit).

# MSAA Learning Goals

The Learning Goals for the MSAA program are listed in Table 1. Note that the first two goals (communications and teamwork skills) are the same as for other graduate degree programs; the remaining two learning goals are specific to the MSAA program.

Table 1: MSAA Learning Goals

|  |
| --- |
| Learning Goals/ Skill Sets |
| MSAA 1: Students can communicate effectively in written and oral presentations.  |
| MSAA 2: Students can interact effectively in teams. |
| MSAA 3: Students will master the core technical skills and quantitative methods required in the accounting discipline.  |
| MSAA 4: MSAA students demonstrate the ability to identify and implement solutions to accounting-related problems in order to contribute to an enterprise’s success.  |

# MSAA Assurance of Learning Assessment Plan

**Table 2: MSAA Assurance of Learning Assessment Plan - GOALS 1 through 4**

|  |  |  |  |
| --- | --- | --- | --- |
| **MSAA LEARNING GOAL** | **Where and when measured?** | **How measured?** | **Criterion** |
| MSAA 1: Students can communicate effectively in written and oral presentations.  | ACC 620 Fall | For written, the final paper is an individual research paper, evaluated by professor using an appropriate rubric.The final paper is accompanied by an oral presentation, evaluated by professor using an appropriate rubric. | 100% of students must receive a grade of at least “B” on the final paper and presentation. |
| MSAA 2: Students can interact effectively in teams. | ACC 535 Fall | Students work on an accounting data analytics group project and are asked to perform a peer evaluation of each other's contributions at the end of the semester using the rubric provided in the “MSAA Learning Goals, Objectives, and Rubrics” section. | Students' grades on the accounting data analytics group project will be adjusted based on the results of the peer evaluation. |
| MSAA 3: Students will master the core technical skills and quantitative methods required in the accounting discipline.  | ACC 535 Fall | Students are required to complete a comprehensive data analytics assignment. The assignment will be evaluated by the instructor using the rubric provided in the “MSAA Learning Goals, Objectives, and Rubrics” section. | 100% of students must receive a grade of at least “B” on the comprehensive data analytics assignment. |
| MSAA 4: MSAA students demonstrate the ability to identify and implement solutions to accounting-related problems in order to contribute to an enterprise’s success.  | ACC 552 Spring | Students complete an individual written case study assignment in which a sample client report and business tax return suitable for filing is submitted. Professor evaluates performance based on an appropriate rubric. | 100% of students must receive a grade of at least “B” on the final paper. |

# MSAA Curriculum Alignment Map

**Table 3: MSAA Curriculum Alignment Map 2023-24**

*Shaded items are provided in the AoL plan of the MFA, MFIN, or BIA programs*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Number** | **Course Name** | MSAA 1: Students can communicate effectively in written and oral presentations.  | MSAA 2: Students can interact effectively in teams. | MSAA 3: Students will master the core technical skills and quantitative methods required in the accounting discipline.  | MSAA 4: MSAA students demonstrate the ability to identify and implement solutions to accounting-related problems in order to contribute to an enterprise’s success.  |
| ACC 535 | Accounting Data Analytics and Information Systems | Students present findings from in-class analytics tasks in each session. Three comprehensive data analytics assignments require students to effectively communicate their conclusions. Groups prepare and present a comprehensive report on their accounting data analytic project. | Weekly in-class exercises involve teamwork, with students pairing up (groups of 2) to tackle data analytics tasks. Students collaborate in teams for the final data analytic project. | -Application of data analytics in accounting is taught in every class, with hands-on exercises following lectures. -Students are tasked with three in-depth data analytic assignments. -Teams undertake a comprehensive data analytics project, applying techniques learned throughout the term. | The course emphasizes the real-world application of data analytics in accounting. Students acquire skills to analyze accounting data and derive informed managerial decisions. |
| ACC 552 | Tax Compliance and Planning for Business Entities (Accounting elect) | Students present findings for a business analytics project. | Students are allowed, but not required, to work in teams to complete a business analytics project. | Students complete tax problems and simulations, along with a business analytics project and separate case study in order to learn fundamental tax and accounting principles. | Students complete tax problems and simulations, along with a business analytics project and separate case study in order to learn business decision making skills. |
| ACC 585 or ACC 555 | ACC 585 Fraud Examination and Forensic Investigation | Each student is assigned a course topic and asked to lead the class discussion on the day it is covered. Two case studies are assigned, and individual written reports are submitted. A group case study report is submitted as an end of the semester project. Each group selects a leader to present the group’s findings during the final class session. | A group case study report is submitted as an end of the semester project. Each group selects a leader to present the group’s findings during the final class session. | Course focuses on learning and mastering tools and techniques used in forensic accounting. | A detailed group case study in forensic accounting is assigned wherein students are required to review and analyze business records then identify a problem and put forth solutions to it. |
| ACC 555 Retirement and Estate Planning | Each student is assigned a homework problem and asked to lead the class discussion on the day it is solved in class.  | In-class exercises are done in teams. | Course focuses on learning and mastering tools and techniques used in retirement and estate planning. | Course spends time focusing on the business succession planning process used to contribute to the long-term continuity of an organizational structure. |
| ACC 620 | ACC 620: Accounting Regulations: Research and Applications | Students write a final paper. Students present homework assignments in class. | In-class exercises and some homework are done in teams. |   |  Students research accounting standards and academic papers. |
| ACC 510 or BIA 500 or MIS 637 | ACC/FIN 510 Financial Statement Analysis  | Students are assigned case studies that require written response and oral presentation.  | For case studies, students have individual tasks but work together and present as teams.  | Course deals with mastering techniques of financial reporting and critically analyzing financial statements and related information.  | Students analyze subject companies as potential investors, creditors, vendors and executive employees as a basis for the relevant decision. |
| BIA 500 Business Analytics: Data, Models & Decisions |  Students write a final paper. Students present homework assignments in class. |  Students collaborate in class and discuss analytical methods.  |  Students will master the core analytical skills required and can apply them in the accounting discipline.  |  students demonstrate the ability to identify the right modeling approach and implement solutions to real world applications in order to contribute to an enterprise’s success.  |
| MIS 637 Data Analytics and Machine Learning | Lead deployment of results enabling intelligent business & operations decisions, Present, Communicate, and document the result; Input the extracted knowledge to the next iterative steps. | Utilize the corporate resources, expertise, subject matter experts, and systems to Access the data, and work with data owners to Define, Describe, and clearly state profound non-trivial business and/or operations questions.  | Determine proper knowledge discovery algorithm(s) (data mining technique(s)), Identify (and or develop) software to execute the specified algorithm(s)/data mining technique(s).  | Mine identified data sets and discover models, patterns, dependencies that will enable predictions and intelligent business and operations decisions. |
| BIA 652 or FA541 | BIA 652 Multivariate Data Analysis  | Final projects require students to write a project report. | Students have the option to work in teams for their final project. | Class assignments include the application of fundamental statistical methods for finance.  | Students develop competency in using Excel and Python to solve finance-related problems. |
| FA 541Applied Stats with Applications in Finance | Students present group projects and provide a report.  | Student groups work as a team to solve a statistically related problem throughout the semester and present their finding orally as well as in a final written report. | Skills taught include OLS regression, logistic regression, analysis of variance (ANOVA), factor analysis to establish statistical relations among accounting variables.  |   |

# Ethics Thread

The MSAA Program also addresses the importance of Business Ethics. The following table shows the core courses where ethics is explicitly addressed.

|  |  |  |
| --- | --- | --- |
| **Course Number** | **Course Name** |  |
| ACC 552 | Tax Compliance and Planning for Business Entities  | Course coverage includes discussion of the IRS Rules of Professional Conduct as found in Circular 230. |
| ACC 585  | Fraud Examination and Forensic Investigation  | Course coverage includes discussion of the AIPCA Code of Professional Conduct, and how the standards of ethical conduct differ for outside consultants as opposed to auditors. |
| ACC 620 | Accounting Regulations: Research and Applications | Course includes coverage of the AICPA Code of Professional Conduct which establishes mandatory ethics requirements applicable to all CPAs.  |

# Global Context Thread

One purpose of the MSAA Program is to provide students with the educational qualifications needed for a CPA license in the US. Therefore, the global context thread is relatively focused. Following is a chart that maps the core courses to global coverage using the legend below.

Legend

|  |  |
| --- | --- |
|  | Entirely Global Content  |
|  | Significant parts are global |
| A black background with a black square  Description automatically generated with medium confidence | Some global content |

|  |  |  |
| --- | --- | --- |
| Course | Legend | Notes |
| ACC-552 Tax Compliance and Planning for Business Entities |   | Course discusses the taxation of multinational business entities. |
| ACC 620 Accounting Regulations: Research and Application |  | Course covers International Financial Reporting Standards (IFRS) and contrasts with US Generally Accepted Accounting Principles. |

# MSAA Learning Goals, Objectives and Rubrics

## MSAA 1: Students can communicate effectively in written and oral presentations.

**ACC620 (*will be renumbered 590*) (Accounting Regulations: Research and Application) – Final Project**

Assessment Rubric for Written Report

|  |  |  |  |
| --- | --- | --- | --- |
| **Trait** | **Poor**  | **Good**  | **Excellent**  |
| Professionalism | Late and/or incomplete | On time. Complete; sincere attempt at each question. | On time. Complete; sincere attempt at each question. |
| Grammar and spelling | Significant grammatical or spelling errors. | Minor grammatical or spelling errors. | Impeccable grammar and spelling. |
| Organization | Poorly organized.  | Somewhat well organized. | Well organized; easy to follow. |
| Appropriate citations | Report contains plagiarism such as direct quotes that are not attributed (i.e., they are not in quotation marks). Reliance on Generative AI but failed to provide description of use and steps to fact check. | Report properly cites sources. If Generative AI is used, report provides required description of prompts and steps to fact check output. | Report properly cites sources. If Generative AI is used, report provides required description of prompts and steps to fact check output. |

Assessment Rubric for Oral Presentations

|  |  |  |  |
| --- | --- | --- | --- |
| **Trait** | **Poor** | **Good** | **Excellent** |
| 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.  |
| 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.  |
| 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. |
| 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. |
| TransitionsTime ManagementQ&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. |

## MSAA 2: Students can interact effectively in teams.

**ACC535 (Accounting Data Analytics and Information Systems) – Group Project**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Poor** | **Average** | **Good** | **Excellent** |
| Teamwork Quality | Frequently worked in isolation, didn’t share data findings, and resisted peer feedback. | Sometimes collaborated, occasionally shared findings, and was open to feedback intermittently. | Collaborated on most tasks, regularly shared findings, and was receptive to peer feedback. | Consistently collaborated, proactively shared findings, and actively sought and valued peer feedback. |
| Communication Skills | Rarely communicated updates, struggled to explain data insights, didn't use accounting concepts. | Communicated basic updates, provided general data insights, and used minimal accounting concepts. | Regularly updated team, explained data insights effectively, and properly used accounting concepts. | Always kept team informed, excelled in explaining intricate data insights, and mastered accounting concepts. |
| Collaborative Coding | Rarely participated in joint coding sessions or resisted using shared coding platforms. | Occasionally joined coding sessions, sometimes used shared coding platforms without active engagement. | Regularly participated in joint coding, actively engaged in shared platforms, and provided constructive code feedback. | Led collaborative coding sessions, championed the use of shared platforms, and mentored peers in coding best practices. |
| Feedback Receptivity | Often dismissed peer suggestions, didn’t integrate feedback into data analysis or system design. | Considered feedback but inconsistently integrated it into analytics or systems. | Frequently integrated feedback into analysis, valued peer insights for system improvements. | Actively sought feedback, fully integrated it into refined analytics, and encouraged a feedback-rich environment. |

## MSAA 3: Students will master the core technical skills and quantitative methods required in the accounting discipline.

**ACC535 (Accounting Data Analytics and Information Systems) – Comprehensive Data Analytics** **Assignment**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Poor** | **Average** | **Good** | **Excellent** |
| Data Processing and Manipulation | Did not arrange the data into suitable fields with suitable field names. Most of the errors in the data were not recognized nor corrected. | Some of the data has been arranged into suitable fields with suitable field names. Some of the Dimension and Measures have been appropriately identified. Important errors in the data were not completely recognized and corrected or mentioned in the summary memo. | Most of the data has been arranged into suitable fields with suitable field names. Most of the Dimensions and measures have been appropriately identified. Important errors in the data were not completely recognized and corrected or mentioned in the summary memo. | Student has arranged data into suitable fields with appropriate field names. Data is accurate and Dimensions and Measures (discontinuous and continuous) are appropriately identified. Important errors in the data were recognized and corrected or mentioned in the summary memo. |
| Presentation | Methods and tools used were not appropriate. The analysis leads to incorrect conclusions and errors. | Student attempts to use appropriate methods and tools to identify trends, but errors exist that do not allow the student to make the correct conclusions. | Student uses methods and tools to present data, but not all may be appropriate. The methods used show trends and the students uses some prior knowledge to draw conclusions. | Student uses appropriate methods and tools to present data. The methods used shows trends and the student is able to draw appropriate conclusions based on knowledge. |
| Visualization Methods | Few methods were applied resulting in significant amounts of errors and omissions. | Some methods were applied but with a large amount of errors or omissions. | Most methods were correctly applied but more could have been done with the data. | The methods are suitable for the problem and the intended audience. The student incorporates filtering and sorting features as appropriate. |
| Analysis and Conclusions | Entirely missed the point. | Analyzed only the most basic points. | Missed some important points. | Conclusions are focused and supported by the visualization results. All important points are covered in the summary memo. |

## MSAA 4: MSAA students demonstrate the ability to identify and implement solutions to accounting-related problems in order to contribute to an enterprise’s success.

**ACC 552 Tax Compliance and Planning for Business Entities**

**Individual Written Report Scoring Rubric**

Each Pointed Scored on Scale of 1 to 5 (Poor to Excellent)

**QUALITY OF WRITTEN REPORT (35)**

 Were the main ideas presented in an orderly and clear manner?

 Was the report the proper length?

 Were the heading and sections appropriate and helpful to relaying findings?

 Did the writing maintain the interest of the reader?

 Was the take-home message clear?

 Was the writer responsive to pre-submission review suggestions?

 Was the physical report professional in appearance?

**KNOWLEDGE BASE (35)**

 Was proper background information on the topic given?

 Was the material selected for inclusion appropriate and relevant to the topic?

 Was enough essential information given to allow the reader to effectively evaluate the topic?

 Was irrelevant or filler information excluded?

 Did the writer have a clear understanding of the material presented?

 Did the writer display a clear overall understanding of tax principles and concepts?

 Did the writer properly cite to existing tax authority?

**CRITICL THINKING (30)**

 Were the main issues in this area clearly identified?

 Were both theoretical positions and empirical evidence presented?

 Were the strengths and weaknesses of the theories, and the methods used to gather this evidence adequately explained?

 Did the writer make recommendations for further work in this area?

 Did the main conclusions of the writer follow from the material presented?

 Were competing explanations or theories considered and dealt with properly?

**OVERALL IMPRESSION** **\_\_\_\_\_\_\_** **/ 100**

# Results of AACSB Learning Goal Assessments

# Indirect measurements

# Competencies

# Engagement, Innovation, and Impact