

## Program of Study — M.S. in Applied Economics & M.S. in Applied Analytics Dual Degree (45 Credits)

### Woods College of Advancing Studies

Student Name: \_\_\_\_\_

Eagle Id: \_\_\_\_\_

Student Email: \_\_\_\_\_

Advisor Name: \_\_\_\_\_

The MSAA & MSAE dual degree program of study requires 15 courses to be completed, consisting of the 10 required courses from both degrees, 4 electives, and the *Analytics Project course*.

Students are encouraged to take the following classes early in their program of study: *Applied Microeconomic Theory*, *Data Analysis*, *Econometrics* and *Mathematical Methods for Machine Learning I*. For students with limited or no coding experience, taking *AI/ML Software Tools and Platforms* early in their program of study is also recommended

**NOTE:** Students who have completed an Analytics course such as Econometrics, Business Analytics, etc. in their undergraduate studies can apply for Course Equivalence waiver for *Data Analysis*. Students who have completed Linear Algebra may apply for a waiver for *Mathematical Methods for Machine Learning I*. Students who have completed Calculus-based Microeconomic and/or Macroeconomic Theory courses may apply for waivers for the *Applied Microeconomic Theory* and *Applied Macroeconomic Theory* courses. Students must provide evidence that the course(s) were Calculus-based, which can be in the form of syllabus and/or catalog course description showing the Calculus prerequisite or a letter from the department in which the course was completed stating that the course(s) included Calculus. Course Equivalence means that students may choose to not take these core courses, but that they may take additional electives. Approval of the waiver DOES NOT reduce the total number of courses that students have to complete in the program. Please visit [this link](#) to submit a waiver request.

Furthermore, new electives are added from time to time and students should check the [MSAE](#) and [MSAA](#) websites for new course offerings.

Lastly, students can take the *Internship in Applied Analytics / Economics* course as an elective. The internship need not be paid but has to be related to the curriculum. Please contact your academic advisor to discuss if the internship is closely related to your program of study. At the graduate level, experiential courses such as internships and project-based courses like *Directed Practicum* are designated as Pass/Fail courses and are not assigned letter grades, which can have GPA implications (see [academic policy](#)).

| Course Requirements  | Term Taken / Transfer | Status | Advising Notes |
|--|-----------------------|--------|----------------|
| Required Courses: 11   |                       |        |                |
| ADEC7200 Applied Macroeconomic Theory  |                       |        |                |
| ADEC7201 Applied Microeconomic Theory  |                       |        |                |
| ADAN7220 / ADEC7220 Mathematical Methods for Machine Learning I / Linear Algebra and Vector Calculus                   |                       |        |                |
| ADEC7301 / ADAN7301 Data Analysis  |                       |        |                |
| ADAN7320 / ADEC7320 Regression Models / Econometrics   |                       |        |                |
| ADAN7406 / ADEC7406 Predictive Analytics/Forecasting   |                       |        |                |
| ADAN7430 / ADEC7430 ML/AI Algorithms I / Big Data Econometrics   |                       |        |                |
| <b>Select 1:</b> ADAN7500 Algorithmic Ethics and Governance <b>or</b><br>ADEC 7500 Ethics, Economics and Public Policy |                       |        |                |

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|---|------------------------------|---------------|-----------------------|
| ADAN7603 / ADEC7603 AI Algorithms II  |                              |               |                       |
| ADAN7905 / ADEC7905 AI/ML Software Tools and Platforms                            |                              |               |                       |
| ADAN8888 Applied Analytics Project  |                              |               |                       |
| <b>MSAA Elective Courses: Choose 2</b>  |                              |               |                       |
| ADAN7221 / ADEC7221 – Real Analysis: The Theory of Calculus                       |                              |               |                       |
| ADAN7399 – Computer Vision  |                              |               |                       |
| ADAN7401 / ADEC7401 – Operations Research   |                              |               |                       |
| ADAN7431 – Natural Language Processing  |                              |               |                       |
| ADAN7470 / ADEC7470 – Advanced Econometrics                                       |                              |               |                       |
| ADAN7520 – AI Product Management  |                              |               |                       |
| ADAN7735 / ADEC7735 – Visual Analytics  |                              |               |                       |
| ADAN7800 / ADEC7800 – Foundations of Generative AI                                |                              |               |                       |
| <b>MSAE Elective Courses: Choose 2</b>  |                              |               |                       |
| ADEC7330 – Law and Economics  |                              |               |                       |
| ADEC7340 – Advanced Urban and Regional Economics                                  |                              |               |                       |
| ADEC7350 – Economics of Banking and Insurance                                     |                              |               |                       |
| ADEC7360 – Financial Economics  |                              |               |                       |
| ADEC7370 – Applied Stress Testing for Economists                                  |                              |               |                       |
| ADEC7380 – Empirical Health Economics   |                              |               |                       |
| ADEC7420 – Development Economics  |                              |               |                       |
| ADEC7421 – Econometric Impact Evaluation for Public Policy and Business Decisions |                              |               |                       |
| ADEC7422 – Economic Modeling for Policy Analytics                                 |                              |               |                       |
| ADEC7502 – Empirical Industrial Organization                                      |                              |               |                       |
| ADEC7520 – Transfer Pricing   |                              |               |                       |
| ADEC7530 – Measuring Business Cycles, Trends and Growth Cycles                    |                              |               |                       |
| ADEC7540 – Marketing Analytics for Economists                                     |                              |               |                       |
| ADEC7550 – Empirical Labor Economics  |                              |               |                       |
| ADEC7610 – Empirical Sports Economics   |                              |               |                       |
| ADEC7810 – Empirical Behavioral Economics   |                              |               |                       |

| <b>Course Requirements</b>  | <b>Term Taken<br/>/ Transfer</b> | <b>Status</b>                              | <b>Advising<br/>Notes</b> |
|---|----------------------------------|--|---------------------------|
| ADEC7820 – Economics of Innovation and Entrepreneurship           |                                  |  |                           |
| ADEC7830 – Communication and Leadership in Applied Economics      |                                  |  |                           |
| ADEC7840 – Management of Projects in Applied Economics            |                                  |  |                           |
| ADEC7900 – Software Tools for Data Analysis                       |                                  |  |                           |
| ADEC7920 – Market Research and Analysis                           |                                  |  |                           |
| ADEC7930 – Fundamentals of Private Equity                         |                                  |  |                           |
| ADEC7940 – Environmental and Natural Resource Economics           |                                  |  |                           |
| ADEC8880 / ADEC8880 – Directed Practicum                          |                                  |  |                           |
| ADAN8883 / ADEC8883 – Internship in Applied Analytics / Economics |                                  |  |                           |
| <b>Total</b>  | <b>Completed<br/>Courses:</b>    | <b>Current and<br/>Future<br/>Courses:</b> | <b>Notes:</b>             |