

# Assessment Plan – Master of Science in Artificial Intelligence (MSAI)

## Thesis and Non-Thesis Options

School of Electrical Engineering and Computer Science (EECS)

Washington State University

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## Program Learning Outcomes (PLOs)

Graduates of the Master of Science in Artificial Intelligence program will be able to:

1. **Demonstrate advanced knowledge** of Artificial Intelligence foundations and subfields, including machine learning, natural language processing, computer vision, and robotics.
  2. **Apply AI techniques** to design and implement solutions for complex real-world problems in engineering, science, and industrial domains.
  3. **Conduct independent research or advanced projects**, demonstrating skills in problem formulation, methodology, implementation, and evaluation.
  4. **Communicate effectively** in written and oral forms to both technical and interdisciplinary audiences.
  5. **Recognize and address ethical and professional responsibilities** in the application of AI, including consideration of societal impacts.
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## Assessment Measures and Criteria for Success

Program Learning Outcome	Thesis Option Measures	Non-Thesis Option Measures	Criteria for Success
1. Advanced knowledge in AI subfields	Performance in graduate-level AI core courses (exams, projects, assignments)	Same as Thesis	≥ 80% of students earn a grade of B or higher in required AI courses
2. Application of AI techniques	Thesis research demonstrating design/implementation of AI solutions (evaluated via rubric)	Capstone/project evaluation demonstrating application of AI solutions (evaluated via rubric)	≥ 80% of students achieve “Meets Expectations” or higher

<b>Program Learning Outcome</b>	<b>Thesis Option Measures</b>	<b>Non-Thesis Option Measures</b>	<b>Criteria for Success</b>
3. Research or independent work	Thesis defense assessed by committee (originality, rigor, contribution)	Capstone report/presentation assessed by committee (technical depth, problem-solving, integration of knowledge)	≥ 80% of students successfully defend or present on first attempt
4. Effective communication	Written thesis and oral defense evaluated via communication rubric	Written capstone report and oral presentation evaluated via communication rubric	≥ 80% of students achieve “Meets Expectations” or higher
5. Ethical and professional responsibility	Embedded assessment in coursework (AI ethics case studies, exams, reflections)	Same as Thesis	≥ 80% of students demonstrate proficiency in responsible AI practices
<b>6. Overall program experience</b> (indirect measure)	Exit interview with Graduate Coordinator and/or Graduate Studies Committee Chair	Exit interview with Graduate Coordinator and/or Graduate Studies Committee Chair	≥ 80% of students report satisfaction with training, advising, and preparation for next career step

## Exit Interview Process

- **Timing:** Conducted in the student’s final semester, typically after thesis defense or completion of capstone project.
- **Format:** One-on-one meeting (in person or virtual) with the Graduate Coordinator or a designated faculty member.
- **Content:**
  - Reflection on mastery of PLOs (knowledge, skills, research/application, communication, ethics).
  - Feedback on curriculum, advising, facilities, and research/project experience.
  - Self-assessment of preparedness for employment or further study.
- **Data Use:** Notes are anonymized and aggregated annually by the Graduate Studies Committee. Themes and concerns are used to guide program improvement.

## Data Collection and Analysis

- **Coursework & Rubrics:** Data collected by instructors and committees.
- **Exit Interviews:** Summaries compiled each semester by the Graduate Coordinator and shared with the Graduate Studies Committee.
- **Exit Surveys:** Complement the interviews with quantitative data.
- **Alumni/Employer Surveys:** Collected every three years.
- **Review:** Graduate Studies Committee analyzes all data annually and submits findings to the School Director and Graduate School.

## Continuous Improvement Process

- **Annual Review:** Graduate Studies Committee reviews coursework, rubrics, surveys, and exit interview findings.
  - **Program Changes:** Recommendations may include revising course offerings, strengthening advising, enhancing research/project support, or introducing professional development workshops.
  - **Documentation:** All findings and actions are documented in the annual departmental assessment report submitted to the Graduate School.
  - **Feedback Loop:** Results and changes are communicated to faculty during departmental meetings and to students via advising and graduate program handbooks.
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