**Plan of Study Grid – A.A.S Artificial Intelligence Practitioner**

**RECOMMENDED FIRST SEMESTER**

| **Course** | **Title** | **Credits** |
| --- | --- | --- |
| ENGL 101 | English Composition I | 3 |
| MATH 120 | Statistics *(recommended Mathematics Gen Ed)* | 3 |
| CMIS 101 | Information Systems & Technology | 3 |
| **CMIS 102** | **AI Fundamentals** *(Milestone – Prepares for Google Cloud GenAI Leader Certification)* | 3 |
| CMIS 105 | Introduction to Programming with Python | 3 |
| **Credits** |  | **15** |

**RECOMMENDED SECOND SEMESTER**

| **Course** | **Title** | **Credits** |
| --- | --- | --- |
| Arts Elective | Gen Ed | 3 |
| **CMSC 125** | **Applied Machine Learning and Data Foundations** | 3 |
| CMIS 179 | Cybersecurity Fundamentals | 3 |
| CMIS 280 | Networking Fundamentals | 3 |
| CMIS 281 | Security Fundamentals | 3 |
| **Credits** |  | **15** |

**RECOMMENDED THIRD SEMESTER**

| **Course** | **Title** | **Credits** |
| --- | --- | --- |
| Humanities Elective | Gen Ed | 3 |
| Biological & Physical Sciences Elective | Gen Ed | 3–4 |
| CMIS 111L | UNIX/Linux Operating System | 3 |
| **CMIS 291** | **AI Security I** *(Milestone – SecAI+ Part I)* | 3 |
| CMIS 203 | Systems Analysis & Design | 3 |
| **Credits** |  | **15–16** |

**RECOMMENDED FOURTH SEMESTER**

| **Course** | **Title** | **Credits** |
| --- | --- | --- |
| Social & Behavioral Sciences Elective | Gen Ed | 3 |
| Communication Elective | Gen Ed | 3 |
| **CMIS 292** | **AI Security II** *(Milestone – SecAI+ Part II and Capstone)* | 3 |
| **CMIS 299** | **Applied AI Capstone** | 3 |
| Select one of the following: |  | 3 |
| Any CMIS, CMSC, BMGT, or MATH course(s) |  |  |
| EMGT 101 – Disaster, Crisis, and Emergency Management |  |  |
| **Credits** |  | **15** |

**Total Credits 60–61**

**Course Descriptions (New Courses)**

**CMIS 102 – AI Fundamentals (3 credits)**  
Introduces students to the principles, applications, and societal impact of artificial intelligence. Topics include generative AI, large language models, prompt engineering, and AI ethics. Students gain hands-on experience using cloud-based AI tools to solve real-world problems.  
*Certification Alignment:* Google Cloud GenAI Leader, Microsoft Azure AI Fundamentals, AWS Certified AI Practitioner (Foundational)

**CMIS 125 – Applied Machine Learning & Data Foundations (3 credits)**  
Applies core AI concepts through supervised and unsupervised machine learning. Students build models with Python and cloud notebooks, focusing on data preparation, evaluation, and ethical deployment.  
*Certification Alignment:* Google AI Essentials / GenAI Leader.

**CMIS 291 – AI Security I (3 credits)**  
Explores vulnerabilities unique to AI systems, including data poisoning, model theft, prompt injection, and adversarial examples. Students apply secure-by-design principles to protect AI pipelines.  
*Certification Alignment:* CompTIA SecAI+ Part I.

**CMIS 292 – AI Security II (3 credits)**  
Advanced study of AI governance, compliance, red-teaming, and incident response. Includes a practical capstone in secure model deployment.  
*Certification Alignment:* CompTIA SecAI+ Part II.

**CMIS 299 – Applied AI Capstone (3 credits)**  
**Prerequisites:** CMIS 125, CMIS 291, and CMIS 292 (or permission of program manager)

This culminating course integrates concepts from artificial intelligence, cybersecurity, cloud computing, and data analysis through a hands-on applied project. Students design, implement, and present an AI-driven solution to a real-world problem, demonstrating technical proficiency, ethical awareness, and secure deployment practices. Projects may include generative AI applications, intelligent automation, or AI security tools developed individually or in teams. Emphasis is placed on applying responsible AI principles, managing project lifecycles, and communicating results to both technical and non-technical audiences.

*Certification Alignment:* Reinforces competencies for CompTIA SecAI+, Google Cloud GenAI Leader, and other industry-recognized AI credentials.

**Program Outcomes**

Graduates of the A.A.S. in Artificial Intelligence Practitioner will be able to:

1. Demonstrate foundational understanding of AI systems, machine learning, and data management.
2. Apply programming and analytical skills to develop and evaluate AI solutions.
3. Implement secure and ethical practices for AI deployment across cloud environments.
4. Earn or prepare for recognized certifications including Google Cloud GenAI Leader and CompTIA SecAI+.
5. Communicate AI concepts effectively to diverse audiences.