SCOUTMASTER BUCKY

Artificial Intelligence Merit Badge Workbook

ScoutmasterBucky.com or ScoutmasterBucky@yahoo.com or 612-483-0665

PLEASE NOTE THERE IS NO ARTIFICIAL INTELLIGENCE MERIT BADGE PAMPHLET

Scouts participating in a Scoutmaster Bucky merit badge opportunity, whether online or in person, should consider using the Artificial Intelligence merit badge class preparation pages for clarifications, insights, and expectations. These resources are available here:

https://scoutmasterbucky.com/merit-badges/artificial-intelligence/

REQUIREMENTS 7a or 7b REQUIRE COUNSELOR APPROVAL.

The Artificial Intelligence (AI) merit badge has no merit badge pamphlet. Instead, it has been designed for you to interact with the Scoutly chatbot on your learning journey as you work through the requirements.

Scoutly can be found on the bottom right of your browser at https://scouting.org.

If you have a question about a requirement, ask Scoutly! Hint: try asking Scoutly to Explain the "xxx" activity for requirement "yy" of the AI merit badge.

This does not replace the requirement to identify and work with a counselor to complete the badge.

REQUIREMENT 1:	Define the following terms and share the meaning of each with your counselor: artificial intelligence (AI), artificial intelligence agents, automation, basic programming, bots, data, databases, digital workers, general AI, machine learning (ML), narrow AI, superintelligent AI, tasks, triggers, workflows, and variables.

Artificial Intelligence (AI):

Artificial Intelligence Agents:

Automation:

Basic Programming:
Bots:
Data:
Databases:

Digital Workers:
General AI:
Machine Learning (ML):
Narrow AI:

Superintelligent AI:
Tasks:
Triggers:
Workflows:
Variables:

REQUIREMENT 2a:	Identify 10 examples of how AI is currently used in everyday life and share what you learned with your counselor.
EXAMPLE #1:	
Notes:	
EXAMPLE #2:	
Notes:	
EXAMPLE #3:	
Notes:	
EXAMPLE #4:	
Notes:	
EXAMPLE #5:	
Notes:	

EXAMPLE #6:
Notes:

EXAMPLE #7:
Notes:

EXAMPLE #8:
Notes:

EXAMPLE #9:
Notes:

EXAMPLE #10:
Notes:

REQUIREMENT 2b:	Identify 5 examples of how AI is currently used in the workplace and share what you learned with your counselor.
EXAMPLE #1:	
Notes:	
EXAMPLE #2:	
Notes:	
EXAMPLE #3:	
Notes:	
EXAMPLE #4:	
Notes:	
EXAMPLE #5:	
Notes:	

REQUIREMENT 2c:	Identify 5 examples of how AI can be used at school or in support of your education and share what you learned with your counselor.

EXAMPLE #1:

Notes:

EXAMPLE #2:

Notes:

EXAMPLE #3:

Notes:

EXAMPLE #4:

Notes:

EXAMPLE #5:

Notes:

REQUIREMENT 2d:	Meet with your counselor and play 10 rounds of the "AI or Not?" game to determine if the presented scenario utilizes AI. Discuss your answers.

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!

Notes:

REQUIREMENT 2e:	Create a timeline with five key milestones in the development of artificial intelligence and share what you learned with your counselor.

Notes:

REQUIREMENT 3a:	Identify 10 examples of how automation is currently used in everyday life and share what you learned with your counselor.
EXAMPLE #1:	
Notes:	
EXAMPLE #2:	
Notes:	
EXAMPLE #3:	
Notes:	
EXAMPLE #4:	
Notes:	
EXAMPLE #5:	
Notes:	

EXAMPLE #6:
Notes:

EXAMPLE #7:
Notes:

EXAMPLE #8:
Notes:

EXAMPLE #9:
Notes:

EXAMPLE #10:
Notes:

REQUIREMENT 3b:	Identify 5 examples of how automation is currently used in the workplace and share what you learned with your counselor.

EXAMPLE #1:

Notes:

EXAMPLE #2:

Notes:

EXAMPLE #3:

Notes:

EXAMPLE #4:

Notes:

EXAMPLE #5:

Notes:

REQUIREMENT 3c:	Identify 5 examples of how automation can be used at school or in support of your education and share what you learned with your counselor.

EXAMPLE #1:

Notes:

EXAMPLE #2:

Notes:

EXAMPLE #3:

Notes:

EXAMPLE #4:

Notes:

EXAMPLE #5:

Notes:

REQUIREMENT 3d:	Explain how automation performs repetitive tasks without human intervention and share what you learned with your counselor.

Notes:

REQUIREMENT 3d:	Explain how automation reduces human error and optimizes resources and share what you learned with your counselor.

Notes:

REQUIREMENT 3e:	Create a timeline with five significant milestones in automation development and share what you learned with your counselor.

Notes:

REQUIREMENT 4a:	Research ethical concerns and responsible use in AI, including bias, privacy, and AI decision-making and share what you learned with your counselor.

Bias:

Privacy:

AI Decision-Making:

Notes:

REQUIREMENT 4b:	Meet with your counselor, play, and discuss 5 rounds of the "What Would You Do?" ethical decision-making scenarios.

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!

REQUIREMENT 4c:	Develop your own ethical guidelines for the use of AI and share what you learned with your counselor.

Notes:

REQUIREMENT 4d:	What is the Turing test and share what you learned with your counselor.
Notes:	

REQUIREMENT 5a:	Explain what a deepfake is and share what you learned with your counselor.
Notes:	

REQUIREMENT 5a:	Explain how a deepfake can affect an individual and share what you learned with your counselor.
Notes:	

REQUIREMENT 5b:	Describe what actions to take if you or someone you know is impacted by a deepfake and share what you learned with your counselor.

Notes:

REQUIREMENT 6a:	Discuss the learning process for AI and its limitations and share what you learned with your counselor.

Notes:

REQUIREMENT 6b:	Identify 5 methods of how to effectively communicate with AI and share what you learned with your counselor.
METHOD #1:	
Notes:	
METHOD #2:	
Notes:	
METHOD #3:	
Notes:	
METHOD #4:	
Notes:	
METHOD #5:	
Notes:	

REQUIREMENT 6c:	Explain the importance of prompt engineering when using AI to create better output and share what you learned with your counselor.

Notes:

REQUIREMENT 6d:	Demonstrate 3 examples of writing clear instructions for a school-related task and share what you learned with your counselor.

EXAMPLE #1:

Notes:

EXAMPLE #2:
Notes:

EXAMPLE #3:
Notes:

DO ONE OF THE FOLLOWING (7A or 7B) FOR REQUIREMENT 7

REQUIREMENT 7a:	With your counselor's approval, choose an artificial intelligence project based on your personal interest or a community need. Develop a plan outlining the project's objectives, data requirements, and potential ethical considerations. Implement the project utilizing appropriate artificial intelligence tools, languages, or platforms. Share your project with your counselor. Discuss the steps you followed to create the project and your experience during the process.

Selected Project:

COUNSELOR APPROVAL: IS REQUIRED.

Counselor's Name _____ Phone or Email _____

Counselor's Signature _____ Date _____ ☐ *approved*

Notes:

REQUIREMENT 7b:	With your counselor's approval, design a short lesson plan on AI and teach it to your patrol of a group of Scouts. The lesson should include an AI-generated age-appropriate explanation of AI, examples of how AI is used in both everyday life as well as in the workplace, and an interactive demonstration of how Scouts could utilize AI to assist them with a school assignment, Scouting activity, or rank advancement. Share information on the development process and teaching experience with your counselor.

Lesson Subject:

COUNSELOR APPROVAL: IS REQUIRED.

Counselor's Name	Phone or Email
Counselor's Signature	Date ☐ *approved*

Notes:

DO ONE OF THE FOLLOWING (8A or 8B) FOR REQUIREMENT 8

REQUIREMENT 8a:	Identify three career opportunities that would use skills and knowledge in artificial intelligence or automation.
Career Opportunity #1:	
Career Opportunity #2:	
Career Opportunity #3:	
REQUIREMENT 8a:	Pick one and research the training, education, certification requirements, experience, and expenses associated with entering the field.
Selected Career Opportunity:	
Training Requirements:	
Education Requirements:	
Certification Requirements:	
Experience Requirements:	

Expenses Associated with Requirements:	
REQUIREMENT 8a:	Research the prospects for employment, starting salary, advancement opportunities, and career goals associated with this career.
Prospects for Employment:	
Starting Salary:	
Advancement Opportunities:	
Career Goals:	
REQUIREMENT 8a:	Discuss what you learned with your counselor and whether you might be interested in this career.
Notes:	

REQUIREMENT 8b:	Interview an artificial intelligence or automation professional. Learn about their day-to-day work, the challenges they face, and their vision for the future of artificial intelligence or automation. Inquire about training, education, certification requirements, experience, and expenses associated with entering the field. Share what you learned with your counselor.

AI or Automation Professional:

Day-to-Day Work:

Challenges They Face:

Vision for the future of AI or Automation:

Training Requirements:
Education Requirements:
Certification Requirements:
Experience Requirements:
Expenses Associated with Requirements: