Information Research Skills for every ASU Graduate:

**Skill 1:** Determines the nature and extent of the information required for a specific purpose.

**Skill 2:** Identifies appropriate research tools and utilizes them effectively.

**Skill 3:** Selects and evaluates results based on accuracy, credibility, relevance and usefulness.

**Skill 4:** Uses information effectively to accomplish a specific purpose, synthesizing new information with existing knowledge.

**Skill 5:** Communicates knowledge through a variety of end products (written, oral, and visual).

**Skill 6:** Applies appropriate documentation and attribution, and observes academic integrity standards necessary to avoid plagiarism.
Skill 1: **Determines** the nature and extent of the information required for a specific purpose.

**Performance Indicator 1:** Defines and articulates type and amount of information needed.

Outcomes:
- Determines preliminary research topic, problem or question.
- Demonstrates an understanding of how the end product affects the information needed.
- Demonstrates understanding of how information is produced and disseminated.
- Recognizes that knowledge is often organized into disciplines.
- Understands the differences between potential sources, their formats and level of content.

**Performance Indicator 2:** Identifies a variety of potential sources for information.

Outcomes:
- Explores background or overview sources to gain familiarity with the topic, problem or question.
- Explores additional specific sources to increase understanding.
- Recognizes the value of identified sources for satisfying the information need.
Performance Indicator 3: Considers time and ease of acquiring the needed information.

Outcomes:
- Determines whether material is available immediately.
- Recognizes that material that is not available immediately can be obtained by the library or through other resources.
- Recognizes the potential trade-off between ease of access and quality of information.
- Understands actions needed to obtain desired information within the time frame required.

Performance Indicator 4: Re-evaluates the nature and extent of the information need.

Outcomes:
- Reviews the original information need to clarify or revise the research question.
- Modifies the topic as necessary according to the amount, type, and content of information found or not found.
- Narrows or broadens the topic to achieve a manageable focus.
Information Research Skills for every ASU Graduate:

Skill 2: **Identifies** appropriate research tools and utilizes them effectively.

**Performance Indicator 1:** Investigates the scope, content, and organization of applicable research tools.

Outcomes:
- Explores appropriate and applicable databases or other sources based on the specific information need.
- Prioritizes the search tools based on their usefulness in meeting the information need.
- Recognizes the availability of assistance through online or in-person library services and experts (e.g., subject librarians, virtual reference services, etc).

**Performance Indicator 2:** Constructs and implements a search strategy using different search tools with different interfaces, protocols, and search parameters.

Outcomes:
- Identifies key concepts involved in the research topic, problem or question.
- Identifies keywords, synonyms and related terms specific to the discipline for the concepts being investigated.
- Uses various search tools (e.g. Library catalogs, research databases) to identify and retrieve information.
- Constructs a search strategy using appropriate commands (e.g., Boolean operators, truncation, etc.) and limiters (e.g. publication year, language, peer reviewed, etc.) for the search tool selected.
- Assesses the quantity, quality, and relevance of the search results.
- Identifies gaps in the information retrieved and determines if the search strategy should be revised.
- Repeats the search using the revised strategy as necessary.
Skill 3: Selects and evaluates results based on accuracy, credibility, relevance and usefulness.

**Performance Indicator 1:** Critically evaluates the information and its sources.

Outcomes:
- Assesses the accuracy based on sources cited, currency, consistency with other information available, etc.
- Determines credibility based on the authority of the author, publisher, journal, organizational affiliation, etc.
- Appraises the usefulness of the information based on its timeliness, relevance, comprehensiveness, objectivity, reliability, etc.
- Utilizes specialized library services to retrieve resources if needed (e.g., interlibrary loan/document delivery, special collections).

**Performance Indicator 2:** Compares new information to prior knowledge and determines whether the information has an impact on the specific purpose.

Outcomes:
- Investigates different viewpoints in order to gain a fuller understanding and to recognize bias.
- Integrates new information with previous knowledge and determines whether the research need is satisfied.
Information Research Skills for every ASU Graduate:

Performance Indicator 3: Saves and manages selected resources including citation information.

Outcomes:
- Selects the most appropriate option for saving the needed citation information (e.g., Citation management software, e-mailing, downloading, and/or printing).
- Records all pertinent citation information for future use. (See Standard 6).
**Information Research Skills for every ASU Graduate:**

Skill 4: **Uses** information effectively to accomplish a specific purpose, **synthesizing** new information with existing knowledge.

**Performance Indicator 1:** Recognizes interrelationships between the ideas presented.

Outcomes:
- Identifies main ideas to be used from each selected source.
- Combines concepts from sources in meaningful ways.

**Performance Indicator 2:** Extracts and analyzes information to build an argument, support or refute claims, solve problems and make decisions.

Outcomes:
- Compares new information with prior knowledge to determine unique characteristics.
- Synthesizes new and prior information toward new understanding.
- Constructs new concepts.
Skill 5: **Communicates** knowledge through a variety of end products (written, oral, and visual).

**Performance Indicator 1:** Applies appropriate technologies to the creation of a specific product (e.g. research paper, performance, etc.).

Outcomes:
- Chooses an appropriate communication medium.
- Manipulates text, images and data, transferring them from their original locations and formats to a new context.

**Performance Indicator 2:** Effectively communicates results of research to others through end product.

Outcomes:
- Organizes the content in a manner that supports the intended purpose.
- Communicates clearly to the intended audience.
Skill 6: **Applies** appropriate documentation and attribution, and observes academic integrity standards necessary to avoid plagiarism.

**Performance Indicator 1:** Adheres to academic integrity standards related to the access and use of information while carrying out all academic assignments.

Outcomes:
- Demonstrates an understanding of what constitutes plagiarism.
- Applies the rules pertaining to citing, paraphrasing and quoting others' work.
- Selects an appropriate documentation style and uses it consistently in citing sources.