

Program:	Mathematics
Degree:	APMS
Department:	Mathematics
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Outcome	Logical and Analytical Skills
Marketable Skills	<ul style="list-style-type: none"> * Ability to use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems. * Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense. * Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events). Ability to effectively utilize fundamental logic axioms to construct and reproduce proofs of basic mathematical statements.

Outcome	Fundamentals of Mathematical Analysis and Geometric Methods
Marketable Skills	<ul style="list-style-type: none"> Ability to utilize analytical and geometric methods to produce precise solutions to mathematical problems and applications. Ability to determine how a system should work and how changes in conditions, hypothesis and related situations will affect outcomes.

Outcome	Fundamentals of Algebraic and Discrete Methods
Marketable Skills	<ul style="list-style-type: none"> Ability to choose the right mathematical methods or formulas to solve a problem. Ability to utilize algebraic and discrete methods to formulate hypotheses and solve problems in a broad range of situations. *Ability to identify complex problems and reviewing related information to develop and evaluate options and implement solutions.

Outcome	Fundamentals of Data Analysis and Modeling Techniques
Marketable Skills	<ul style="list-style-type: none"> Ability to utilize data to construct mathematical models and make predictions. *Ability to identify underlying principles, reasons, or facts of information by breaking down information or data into separate parts. *Ability to analyze needs and product requirements to create a design

Outcome	Associate Applications and Theory
Marketable Skills	<ul style="list-style-type: none"> Ability to utilize various mathematical tools and techniques to design models and directly apply them to contemporary challenges. * Ability to understand the implications of new information for both current and future problem-solving and decision-making. *Ability to use scientific rules and methods to solve problems.

	<ul style="list-style-type: none"> • *Information Ordering: The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
Outcome	Use of Technology
Marketable Skills	<ul style="list-style-type: none"> • Proficient use of essential technological tools to a working mathematician. • Ability to use computers to program, set up functions, enter data and process information.

Outcome	Communication Skills
Marketable Skills	<ul style="list-style-type: none"> • Ability to communicate effectively in the workplace, both through oral and written form, and transmit mathematical knowledge in various forms. • *Ability to selecting and use training/instructional methods and procedures appropriate for the situation when learning or teaching new things. • Ability to work and communicate in groups. • *Ability to give full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

- Marketable skills listed with an asterisk (*) for this example program were drawn from the Knowledge, Skills, and Abilities identified by the US Department of Labor and Statistics for “electrical engineers” as published on O*Net Online (onetonline.org)
- Alternate sources for degree-specific marketable skills include learning outcomes and associated metrics used for programmatic assessment
- Learning outcomes or skills required for programmatic accreditation