

Program:	Mathematics
Degree:	BS
Department:	Mathematics
Contact Name:	Paulo Lima-Filho
Contact Phone:	(979)845-1981

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

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

Outcome	Fundamentals of Algebraic and Discrete Methods
Marketable Skills	<ul style="list-style-type: none"> <li>• Ability to choose the right mathematical methods or formulas to solve a problem.</li> <li>• Ability to utilize algebraic and discrete methods to formulate hypotheses and solve problems in a broad range of situations.</li> </ul>

Outcome	Fundamentals of Data Analysis and Modeling Techniques
Marketable Skills	<ul style="list-style-type: none"> <li>• Ability to utilize data to construct mathematical models and make predictions.</li> <li>• *Ability to identify underlying principles, reasons, or facts of information by breaking down information or data into separate parts.</li> <li>• Ability to applying a variety of mathematics methods to analyze large data sets and predict outcomes with accuracy.</li> </ul>

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

<b>Outcome</b>	<b>Use of Technology</b>
Marketable Skills	<ul style="list-style-type: none"> <li>• Proficient use of essential technological tools to a working mathematician.</li> <li>• Ability to use computers to program, set up functions, enter data and process information.</li> </ul>

<b>Outcome</b>	<b>Communication Skills</b>
Marketable Skills	<ul style="list-style-type: none"> <li>• Ability to communicate effectively in the workplace, both through oral and written form, and transmit mathematical knowledge in various forms.</li> <li>• Ability to work and communicate in groups.</li> <li>• *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.</li> </ul>

- 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

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<b>Outcome</b>	<b>Logical and Analytical Skills</b>
Marketable Skills	<ul style="list-style-type: none"> <li>* Ability to use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.</li> <li>* Deductive Reasoning: The ability to apply general rules to specific problems to produce answers that make sense.</li> <li>* Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).</li> </ul>

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

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

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

<b>Outcome</b>	<b>Associate Applications and Theory</b>
Marketable Skills	<ul style="list-style-type: none"> <li>Ability to utilize various mathematical tools and techniques to design models and directly apply them to contemporary challenges.</li> <li>* Ability to use scientific rules and methods to solve problems.</li> </ul>
<b>Outcome</b>	<b>Use of Technology</b>
Marketable Skills	<ul style="list-style-type: none"> <li>Ability to use collaborative editing and typesetting software; Google Docs; Microsoft Word; LaTeX.</li> </ul>

	<ul style="list-style-type: none"> <li>• Ability to use modern pedagogical software, LMS, Geogebra, Onenote and similar tools.</li> <li>• Proficient use of essential technological tools to a mathematics instructor.</li> </ul>
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<b>Outcome</b>	<b>Communication Skills</b>
Marketable Skills	<ul style="list-style-type: none"> <li>• Ability to communicate effectively in the workplace, both through oral and written form, and transmit mathematical knowledge in various forms.</li> <li>• *Ability to selecting and use training/instructional methods and procedures appropriate for the situation when learning or teaching new things.</li> <li>• Ability to work and communicate in groups.</li> </ul>

<b>Outcome</b>	<b>Pedagogical Skills</b>
Marketable Skills	<ul style="list-style-type: none"> <li>• Ability to apply principles and methods of curriculum and training design, to teach mathematics effectively and measure learning outcomes.</li> <li>• Ability to prepare and deliver lectures at the appropriate level and to evaluate and grade students' class work, assignments, and papers.</li> <li>• Ability to prepare course materials, such as syllabi, homework assignments, and handouts.</li> </ul>

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