<table>
<thead>
<tr>
<th>Program</th>
<th>Astronomy</th>
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<tbody>
<tr>
<td>Degree:</td>
<td>MS</td>
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<tr>
<td>Department:</td>
<td>Physics and Astronomy</td>
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<tr>
<td>Contact Name:</td>
<td>Joseph Ross</td>
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<td>Contact Phone:</td>
<td>979-845-3842</td>
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**Outcome** | Master degree-program requirements, including theories, concepts, principles, and practice, and develop a coherent understanding of the subject matter through synthesis across courses and experiences.

**Marketable Skills**
- Fundamental understanding of the physical principles governing our world, and our universe.
- Ability to generate and apply novel models and principles to the solution of complex astronomical problems as well as other real-world problems
- Ability to successfully implement solution strategies

**Outcome** | Apply subject matter knowledge in a range of contexts to solve problems and make decisions.

**Marketable Skills**
- Ability to identify and bring together disparate analytical tools and instrumentation in the analysis of challenging physical problems
- Understanding of which concepts are likely to be effective in addressing technical problems
- Ability to interpret results and base decision-making on quantitative foundations

**Outcome** | Use a variety of sources and evaluate multiple points of view to analyze and integrate information and to conduct critical, reasoned arguments.

**Marketable Skills**
- Knowledge of a range of sources for obtaining appropriate information
- Ability to identify and evaluate the quality of sources of information relevant to research and applied projects
- Ability to effectively engage with the work of colleagues (papers, presentations, discussions), and to incorporate this work into thinking and decision-making

**Outcome** | Communicate effectively.

**Marketable Skills**
- Ability to communicate fundamental physical concepts in astronomy and related physical ideas a straightforward manner.
- Ability to communicate physical ideas with a variety of audiences, including both STEM and non-STEM individuals
- Ability to listen when appropriate and incorporate productive ideas into their work

**Outcome** | Use appropriate technologies to communicate, collaborate, conduct research, and solve problems.

**Marketable Skills**
- Ability to use appropriate technology to produce papers and presentations to effectively communicate physical ideas.
- Facility with the growing range of Internet collaborative technology
- Ability to use cutting-edge instrumentation and/or computational tools and apply them to problems in astronomy as well as related real-world problems

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<tr>
<th>Outcome</th>
<th>Develop clear research plans and conduct valid, data-supported, theoretically consistent, and institutionally appropriate research.</th>
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| Marketable Skills | - Knowledge of the role of astronomy as well as underlying physical concepts in the field of interest, and an ability to set out a research program addressing questions that will lead to breakthroughs in understanding  
- Ability to set out long-term research goals, along with short-term plans to facilitate working toward those goals  
- Willingness to evaluate research progress and make changes to the research plan where appropriate |

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<tr>
<th>Outcome</th>
<th>Choose ethical courses of action in research and practice.</th>
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| Marketable Skills | - Ability to recognize situations with substantial ethical concerns, and to approach such situations with honesty and integrity.  
- Knowledge of common circumstances in which ethical concerns arise.  
- Willingness to seek help regarding ethical concerns when appropriate. |