## Texas A&M University Marketable Skills: Doctoral

<table>
<thead>
<tr>
<th>Program:</th>
<th>Biomedical Engineering</th>
</tr>
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<tbody>
<tr>
<td>Degree:</td>
<td>PhD</td>
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<tr>
<td>Department:</td>
<td>BMEN</td>
</tr>
<tr>
<td>Contact Name:</td>
<td>Roland Kaunas</td>
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<tr>
<td>Contact Phone:</td>
<td>9798452412</td>
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### Outcome
Master degree-program requirements, including theories, concepts, principles, and practice; develop a coherent understanding of the subject matter through synthesis across courses and experiences; and apply subject matter knowledge to solve problems and make decisions.

#### Marketable Skills
- Critically evaluate all aspects of primary scientific literature related to area of study.
- Describe engineering and biological/physiological principles relevant to a specific study for the Qualifier Exam.
- Design, perform and analyze experiments to address a biomedical problem.

### Outcome
Apply a variety of strategies and tools, use a variety of sources, and evaluate multiple points of view to analyze and integrate information and to conduct critical, reasoned arguments.

#### Marketable Skills
- Develop a written proposal for topics to be studied for a dissertation.
- Write and publish scientific manuscripts based on original experimental findings.
- Collaborate with researchers from other labs to incorporate additional skills, tools, and viewpoints into their scientific projects.

### Outcome
Communicate effectively.

#### Marketable Skills
- Regularly communicate project status in lab meetings.
- Deliver an elevator pitch, presentation to a lay audience, and poster presentation.
- Communicate effectively with their advisor and collaborators to accomplish goals.

### Outcome
Develop clear research plans, conduct valid, data-supported, theoretically consistent, and appropriate venues to a range of audiences.

#### Marketable Skills
- Present scientific findings in the BMEN Annual Research Symposium.
- Orally defend original scientific findings within the context of the state of the art.
- Present scientific findings in national conferences.

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

#### Marketable Skills
- Master the use of analytical equipment appropriate to collecting data for their dissertation.
- Apply appropriate statistical analyses to test hypotheses regarding data.
- Accurately develop the Methods, Results and Discussion sections of scientific manuscripts.

<table>
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<tr>
<th>Outcome</th>
<th>Teach and explain the subject matter in their discipline.</th>
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| Marketable Skills | • Perform Instructional Service for two semesters in biomedical engineering courses or related efforts.  
                      • Train and supervise undergraduate researchers to perform independent research.  
                      • Present scientific findings in regional and national conferences. |

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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 | • Record all experimental methods and findings in log books.  
                      • Accurately describe experimental findings in scientific publications.  
                      • Conduct experiments following laboratory safety regulations and perform regular safety trainings. |