MECHANICAL ENGINEERING PROGRAM

Mechanical engineering is a highly diversified profession. The mechanical engineer designs machines, devices, various products and control systems, and works with the generation, conversion, transmission and utilization of mechanical and thermal power. Assignments often include analysis and synthesis of mechanical, thermal and fluid systems. Mechanical engineers are also responsible for characterization, specification and analysis of materials used in design and manufacturing. Manufacturing systems, robotics, electromechanical devices and control systems are also the purview of the mechanical engineer. Graduates in mechanical engineering are among the most versatile engineers and enjoy professional employment in industry, government, consulting and research organizations.

The work of mechanical engineers varies from general engineering to numerous narrow specialties, as required by the wide variety of employers. A general list, though not in any way exhaustive, of the areas of professional employment opportunities available to mechanical engineers includes design, construction, controls, materials specification and evaluation, thermal systems analysis, fluid and solid mechanics, manufacturing, plant engineering, research and development, and technical sales. Many mechanical engineers are promoted to management and administrative positions as well.

Program Mission

The mission of the Mechanical Engineering Program is to serve the students of Texas A&M at Qatar and the State of Qatar by:

- Providing quality education, well grounded in the fundamental principles of engineering, to prepare students for leadership positions and successful careers in industry, government and academia.
- Extending the knowledge base of mechanical engineering to support the competitiveness of existing industry and to spawn new economic development in the State of Qatar and the region through active involvement in basic and applied research.
- Providing professional development opportunities for practicing engineers through continuing education, service and outreach activities.

Program Educational Objectives

The objectives of the Mechanical Engineering Program at Texas A&M at Qatar are to produce graduates who, a few years after leaving Texas A&M Qatar will:

1. Have broad engineering experience of increasing complexity to address the evolving needs of the private and public sectors in Qatar, the surrounding regions, and beyond.
2. Have leadership positions in their professional career.
3. Have met new challenges by engaging in professional development, further technical education and/or non-technical education.

The mechanical engineering curriculum at Texas A&M at Qatar requires students to develop and apply logical thinking, innovative approaches and ethical standards as a prerequisite for professional competence. The curriculum consists of basic theory courses complemented by laboratory experiences in science and mathematics, dynamic systems and controls, design, experimentation, fluid mechanics, heat transfer, manufacturing, and materials. Elective courses are offered in several specific areas of mechanical engineering including air conditioning, computer-aided design, control systems, corrosion, energy conversion, materials, mechanical design, plastics, mechatronics, failure, power generation, turbomachinery and others. The selection of elective courses is dictated by the interests and professional goals of the student, working with departmental advisors and within the curriculum guidelines.

Many students enhance their education by participating in professional internships, which offer opportunities for employment in engineering positions, while working toward a degree. Numerous study abroad programs are also available for gaining experience and perspectives in the international arena. Participation in student chapters of professional and honor societies provides leadership opportunities, collegial activities and learning experiences outside the classroom. Students may also participate in research projects through individually directed studies courses with a professor. The Mechanical Engineering Program culminates with a senior capstone design course sequence highlighted by real-life projects sponsored by various industries. Students benefit from the challenges and gratification that come through direct interaction with practicing engineers.

Before commencing course work in the major, students must be admitted to the major or have the approval of the department.

The undergraduate program in Mechanical Engineering at Texas A&M University at Qatar is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org (https://www.abet.org/).

Faculty

Aguilar-Mendoza, Guillermo, Professor
Mechanical Engineering
PHD, University of California - Santa Barbara, 1999
Albakri, Mohammad, Engineering Assistant Professor
Mechanical Engineering-Qatar Campus
PHD, Virginia Polytechnic Institute and State University, 2016
Allaire, Douglas L, Associate Professor
Mechanical Engineering
PHD, Massachusetts Institute of Technology, 2009
Ambrose, Robert, Professor
Mechanical Engineering
PHD, University of Texas at Austin, 1991
Amiri, Ahmad, Research Assistant Professor
Mechanical Engineering
PHD, Texas A&M, 2022
PHD, Texas A&M University, 2022
PHD, University of Malaya, 2017
Anand, Nagamangala, Regents Professor
Mechanical Engineering
PHD, Purdue University, 1983
Antao, Dion S, Assistant Professor
Mechanical Engineering
PHD, Drexel University, 2013
Balas, Mark, Professor
Mechanical Engineering
PHD, University of Denver, 1974
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
<th>Institution and Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balawi, Shadi Omar</td>
<td>Instructional Associate Professor</td>
<td>Mechanical Engineering</td>
<td>University of Cincinnati, 2007</td>
</tr>
<tr>
<td>Bandyopadhyay, Arkasama</td>
<td>Research Assistant Professor</td>
<td>Mechanical Engineering</td>
<td>University of Texas Austin, 2020</td>
</tr>
<tr>
<td>Banerjee, Debjyoti</td>
<td>Professor</td>
<td>Mechanical Engineering</td>
<td>University of California at Los Angeles, 1999</td>
</tr>
<tr>
<td>Benjamin, Chandler C</td>
<td>Assistant Professor</td>
<td>Mechanical Engineering</td>
<td>University of Wisconsin, Madison, 2017</td>
</tr>
<tr>
<td>Borazjani, Iman</td>
<td>Associate Professor</td>
<td>Mechanical Engineering</td>
<td>University of Minnesota, 2008</td>
</tr>
<tr>
<td>Charoenphol, Phapanin</td>
<td>Instructional Assistant Professor</td>
<td>Mechanical Engineering</td>
<td>University of Michigan, 2012</td>
</tr>
<tr>
<td>Claridge, David E</td>
<td>Professor</td>
<td>Mechanical Engineering</td>
<td>Stanford University, 1976</td>
</tr>
<tr>
<td>Cooper, Marcia</td>
<td>Associate Professor</td>
<td>Mechanical Engineering</td>
<td>California Institute of Technology, 2004</td>
</tr>
<tr>
<td>Cope, Dale A</td>
<td>Associate Professor of the Practice</td>
<td>Mechanical Engineering</td>
<td>Wichita State University, 2002</td>
</tr>
<tr>
<td>Corleto, Carlos Roberto</td>
<td>Professor of the Practice</td>
<td>Mechanical Engineering</td>
<td>Texas A&amp;M University, 1990</td>
</tr>
<tr>
<td>Darbha, Swaroop V</td>
<td>Professor</td>
<td>Mechanical Engineering</td>
<td>University of California at Berkeley, 1994</td>
</tr>
<tr>
<td>Delgado, Adolfo</td>
<td>Associate Professor</td>
<td>Mechanical Engineering</td>
<td>Texas A&amp;M University, 2008</td>
</tr>
<tr>
<td>El Borgi, Sami</td>
<td>Professor</td>
<td>Mechanical Engineering-Qatar Campus</td>
<td>Cornell University, 1993</td>
</tr>
<tr>
<td>Elliott, Matthew</td>
<td>Instructional Associate Professor</td>
<td>Mechanical Engineering</td>
<td>Texas A&amp;M, 2013</td>
</tr>
<tr>
<td>Erdemir, Ali</td>
<td>Professor</td>
<td>Mechanical Engineering</td>
<td>Georgia Institute of Technology, 1986</td>
</tr>
<tr>
<td>Felts, Jonathan R</td>
<td>Associate Professor</td>
<td>Mechanical Engineering</td>
<td>University of Illinois Urbana Champaign, 2013</td>
</tr>
<tr>
<td>Fenton Friesen, Rebecca</td>
<td>Assistant Professor</td>
<td>Mechanical Engineering</td>
<td>Northwestern University, 2020</td>
</tr>
<tr>
<td>Gao, Wei</td>
<td>Associate Professor</td>
<td>Mechanical Engineering</td>
<td>University of Texas, 2014; University of Texas at Austin, 2014</td>
</tr>
<tr>
<td>Gopalswamy, Swaminathan</td>
<td>Research Professor</td>
<td>Mechanical Engineering</td>
<td>University of California, 1991</td>
</tr>
<tr>
<td>Grunlan, Jaime C</td>
<td>Professor</td>
<td>Mechanical Engineering</td>
<td>University of Minnesota, 2001</td>
</tr>
<tr>
<td>Guo, Bing</td>
<td>Associate Professor</td>
<td>Mechanical Engineering-Qatar Campus</td>
<td>Tsinghua University, China, 1998</td>
</tr>
<tr>
<td>Haglund, John S</td>
<td>Instructional Associate Professor</td>
<td>Mechanical Engineering</td>
<td>Texas A&amp;M University, 2003</td>
</tr>
<tr>
<td>Han, Je C</td>
<td>Distinguished Professor</td>
<td>Mechanical Engineering</td>
<td>University of Maryland, 2014</td>
</tr>
<tr>
<td>Hassan, Ibrahim</td>
<td>Professor</td>
<td>Mechanical Engineering-Qatar Campus</td>
<td>Manitoba University, 1995</td>
</tr>
<tr>
<td>Hassan, Yassin A</td>
<td>University Distinguished Professor and Regents Professor</td>
<td>Mechanical Engineering</td>
<td>University of Illinois, 1980</td>
</tr>
<tr>
<td>Hipwell, M Cynthia</td>
<td>Professor</td>
<td>Mechanical Engineering</td>
<td>University of California at Berkeley, 1996</td>
</tr>
<tr>
<td>Hogan, Harry A</td>
<td>Professor</td>
<td>Mechanical Engineering</td>
<td>Texas A&amp;M University, 1984</td>
</tr>
<tr>
<td>Hubbard Jr, James</td>
<td>University Distinguished Professor</td>
<td>Mechanical Engineering</td>
<td>Massachusetts Institute of Technology, 1982</td>
</tr>
<tr>
<td>Jacobs, Timothy J</td>
<td>Professor</td>
<td>Mechanical Engineering</td>
<td>University of Michigan, 2005</td>
</tr>
<tr>
<td>Jarrahbashi, Dorrin</td>
<td>Assistant Professor</td>
<td>Mechanical Engineering</td>
<td>University of California Irvine, 2014</td>
</tr>
<tr>
<td>Khraisheh, Marwan</td>
<td>Professor</td>
<td>Mechanical Engineering-Qatar Campus</td>
<td>Washington State University, 1996</td>
</tr>
</tbody>
</table>
Kim, Haejune, Instructional Assistant Professor
Mechanical Engineering
PHD, University of Wisconsin at Milwaukee, 2014

Kim, Won-Jong, Associate Professor
Mechanical Engineering
PHD, Massachusetts Inst of Technology, 1997

Kim, Yong-Joe, Associate Professor
Mechanical Engineering
PHD, Purdue University, 2003

Krishnamoorthy, Aravind, Assistant Professor
Mechanical Engineering
PHD, Massachusetts Institute of Technology, 2016

Krishnamurthy, Vinayak, Associate Professor
Mechanical Engineering
PHD, Purdue University, 2016

Kulatilaka, Waruna D, Professor
Mechanical Engineering
DEN, Purdue University, 2006

Lacy, Thomas E., Professor
Mechanical Engineering
PHD, Georgia Institute of Technology, 1998

Lan, Shoufeng, Assistant Professor
Mechanical Engineering
PHD, Georgia Institute of Technology, 2017

Layton, Astrid C, Assistant Professor
Mechanical Engineering
PHD, Georgia Institute of Technology, 2014

Lee, ChaBum, Assistant Professor
Mechanical Engineering
PHD, Gwangju Institute of Science and Technology, 2012

Lee, Kiju, Associate Professor
Mechanical Engineering
PHD, Johns Hopkins University, 2009

Li, Ying, Professor
Mechanical Engineering
PHD, University of Florida, 2007

Liang, Hong, Professor
Mechanical Engineering
PHD, Stevens Institute of Technology, 1992

Malak Jr, Richard J, Associate Professor
Mechanical Engineering
PHD, Georgia Institute of Technology, 2008

Mansoor, Bilal, Associate Professor
Mechanical Engineering-Qatar Campus
PHD, University of Michigan, 2010

Masad, Eyad A, Professor
Mechanical Engineering-Qatar Campus
PHD, Washington State University, 1998

Mathieu, Olivier E, Research Associate Professor
Mechanical Engineering
PHD, University of Orleans, 2006

McAdams II, Daniel A, Professor
Mechanical Engineering
PHD, The University of Texas at Austin, 1999

McFarland, Jacob, Associate Professor
Mechanical Engineering
PHD, Texas A&M University, 2013

McVay, Matilda W, Instructional Associate Professor
Mechanical Engineering
PHD, Texas A&M University, 1996

Mohiuddin, Mohammad W, Instructional Assistant Professor
Mechanical Engineering
PHD, Texas A&M University, 2008

Moreno, Michael R, Associate Professor
Mechanical Engineering
PHD, Texas A&M University, 2009

Muliana, Hanifah, Professor
Mechanical Engineering
PHD, Georgia Institute of Technology, 2004

Needleman, Alan, University Distinguished Professor
Mechanical Engineering
PHD, Harvard University, 1971

O’Neill, Zheng, Associate Professor
Mechanical Engineering
PHD, Oklahoma State University, 2004

Pagilla, Prabhakar R, Professor
Mechanical Engineering
PHD, University of California at Berkeley, 1996

Palazzolo, Alan B, Professor
Mechanical Engineering
PHD, University of Virginia, 1981

Pan, Heng, Associate Professor
Mechanical Engineering
PHD, University of California-Berkeley, 2009

Pate, Michael B, Professor
Mechanical Engineering
PHD, Purdue University, 1982

Petersen, Eric L, Professor
Mechanical Engineering
PHD, Stanford University, 1998

Pharr, George, Associate Professor
Mechanical Engineering
PHD, Harvard University, 2014

Polycarpou, Andreas A, Professor
Mechanical Engineering
PHD, University of Buffalo - The State University of New York, 1994
Powell-Palm, Matthew, Assistant Professor  
Mechanical Engineering  
PHD, University of California, Berkeley, 2020

Qiu, Jingjing, Associate Professor  
Mechanical Engineering  
PHD, Florida State University, 2008

Rajagopal, Kumbakonam, Distinguished Professor  
Mechanical Engineering  
PHD, University of Minnesota, 1978

Rasmussen, Bryan P, Professor  
Mechanical Engineering  
PHD, University of Illinois, 2005

Rathinam, Sivakumar, Professor  
Mechanical Engineering  
PHD, University of California at Berkeley, 2007

Reddy, Junuthula N, Distinguished Professor and Regents Professor  
Mechanical Engineering  
PHD, University of Alabama at Huntsville, 1974

Restrepo Perez, Vanessa, Assistant Professor  
Mechanical Engineering  
PHD, Purdue University, 2021

Robbins, Andrew B, Research Assistant Professor  
Mechanical Engineering  
PHD, Texas A&M University, 2018

Ruimi, Annie, Associate Professor  
Mechanical Engineering-Qatar Campus  
PHD, University of California at Santa Barbara, 2005

Sadr, Reza, Professor  
Mechanical Engineering-Qatar Campus  
PHD, University of Utah, 2002

Saripalli, Srikanth, Professor  
Mechanical Engineering  
PHD, University of Southern California, 2007

Schuller, Michael J, Instructional Associate Professor  
Mechanical Engineering-Qatar Campus  
DEN, Texas A&M University, 1985

Seets, David, Professor Of The Practice  
Mechanical Engineering  
PHD, The University of Texas at Austin, 1997

Srinivasa, Arun R, Professor  
Mechanical Engineering  
PHD, University of California at Berkeley, 1991

Staack, David A, Associate Professor  
Mechanical Engineering  
PHD, Drexel University, 2008

Subramanian, Velumani, Instructional Associate Professor  
Mechanical Engineering  
PHD, Bharathiar University, 1998

Suh, Chii-Der, Associate Professor  
Mechanical Engineering  
PHD, Texas A&M University, 1997

Tafreshi, Reza, Professor  
Mechanical Engineering-Qatar Campus  
PHD, University of British Columbia, Canada, 2005

Taheri Andani, Mohsen,  
Mechanical Engineering

Tai, Li-Jung, Associate Professor  
Mechanical Engineering  
PHD, University of Michigan Ann Arbor, 2011

Tarazaga, Pablo, Professor  
Mechanical Engineering  
PHD, Virginia Polytechnic Institute & State University, 2009  
PHD, Virginia Polytechnic Institute and State University, 2009

Thomas, James, Research Assistant Professor  
Mechanical Engineering  
PHD, Texas A&M, 2018

Thomas, Naveen, Instructional Assistant Professor  
Mechanical Engineering  
PHD, Texas A&M, 2021  
PHD, Texas A&M University, 2021  
PHD, Texas A&M University, 2019

Thyagarajan, Ravi, Professor Of The Practice  
Mechanical Engineering  
PHD, California Institute of Technology, 1989

Tran, Thanh Hai, Instructional Assistant Professor  
Mechanical Engineering  
PHD, University of South Florida, 2016

Tsenn, Joanna N, Instructional Assistant Professor  
Mechanical Engineering  
PHD, Texas A&M University, 2016

Tseregounis, Spyros, Professor of the Practice  
Mechanical Engineering  
PHD, University of California at Los Angeles, 1984

Walsh, Michael, Associate Professor of the Practice  
Mechanical Engineering  
MFA, University of Southern California, 2001

Wang, Ya, Associate Professor  
Mechanical Engineering  
PHD, Virginia Tech, 2012

Weaver-Rosen, Jonathan, Instructional Assistant Professor  
Mechanical Engineering  
PHD, Texas A&M, 2021

Wen, Sy-Bor, Associate Professor  
Mechanical Engineering  
PHD, University of California at Berkeley, 2006

Wilkerson, Justin W, Associate Professor  
Mechanical Engineering  
PHD, Johns Hopkins University, 2014
Wright, Lesley M, Associate Professor
Mechanical Engineering
PHD, Texas A&M University, 2006

Yu, Choongho, Professor
Mechanical Engineering
PHD, The University of Texas at Austin, 2004

Zhou, Yuxiao, Assistant Professor
Mechanical Engineering
PHD, Pennsylvania State University, 2020

**Majors**

- Bachelor of Science in Mechanical Engineering (http://catalog.tamu.edu/undergraduate/qatar/mechanical-engineering-program/mechanical-engineering-bs/)

**Minors**

- Control of Mechanical Systems Minor (http://catalog.tamu.edu/undergraduate/engineering/mechanical/control-mechanical-systems-minor/)
- Design and Simulation of Mechanical Systems Minor (http://catalog.tamu.edu/undergraduate/engineering/mechanical/design-simulation-mechanical-systems-minor/)