

# Biomedical Engineering (MS): Non-Thesis Concentration

## Non-Thesis Concentration

Code	Title	Hours
<b>Required courses</b>		<b>9</b>
PHY 503	General Physiology I <sup>1,2</sup>	
	or PHY 504 General Physiology II	
MA 501	Advanced Mathematics for Engineers and Scientists I <sup>1,3</sup>	
	or MA 502 Advanced Mathematics for Engineers and Scientists II	
	or MA 520 Linear Algebra	
ST 511	Statistical Methods For Researchers I <sup>1,4</sup>	
	or ST 515 Experimental Statistics for Engineers I	
<b>BME/BMME Elective Courses <sup>1</sup></b>		<b>9</b>
Select 510-590-level or 700-level BME courses approved in conjunction with the academic committee		
<b>Technical Elective Courses <sup>1</sup></b>		<b>9</b>
Select a minimum of three courses. At NC State 500-level or 700-level courses from the following course prefixes: BME/BMME (510 or higher), CHE, CE, ECE, ISE, MSE, MAE, NE or other courses as approved in conjunction with the program advisor. At UNC 400 – 700 level courses as approved in conjunction with the program advisor. BME/BMME courses must be 510 -590 or 700 level.		
<b>Master's Project <sup>5</sup></b>		<b>3</b>
BME 581	Quality Management Systems for Engineers <sup>5</sup>	
	or BME 582 Quality Management Standards for Biomedical Engineers	
	or BME 692 Individual MS Project in BME	
<b>Total Hours</b>		<b>30</b>

<sup>1</sup> Other graduate courses in applied or technical fields at NC State or UNC-Chapel Hill must be approved by the program advisor.

<sup>2</sup> Alternative course from UNC is BIOL 451 Comparative Physiology

<sup>3</sup> Alternative courses from UNC are MATH 528 Mathematical Methods for the Physical Sciences I or MATH 535 Introduction to Probability or MATH 577 Linear Algebra

<sup>4</sup> Alternative courses from UNC are BIOS 600 Principles of Statistical Inference or BIOS 650 Basic Elements of Probability and Statistical Inference I

<sup>5</sup> Similar credentials, based on the culmination of coursework that also includes a project will also be considered as substitutes for the Master's Project and exam substitute. Alternates must be approved by the BME Graduate Curriculum Committee. In these cases, students will enroll in BME 692 or BMME 992. Students must earn the credential to complete the requirements for graduation.

## Faculty

### Department Chair

Paul Dayton

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## Associate Chairs

Lianne Cartee, *Associate Chair for Education*

Shawn Gomez, *Associate Chair for Research*

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## Directors

Lianne Cartee, *Director of Undergraduate Studies*

Matthew Fisher, *Director of Graduate Studies*

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## Associate Director

Naji Husseini, *Associate Director of Undergraduate Studies*

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## Distinguished Professors

Ashley Carson Brown, *Lampe Distinguished Professor*

Lianne Cartee, *Alumni Distinguished Undergraduate Professor*

Paul Dayton, *William R. Kenan Jr. Distinguished Professor*

Gregory Forest, *Grant Dahlstrom Distinguished Professor of Mathematics*

Caterina M. Gallippi, *William R. Kenan, Jr. Distinguished Professor*

Harvinder Gill, *Ronald B. and Cynthia J. McNeill Term Professor*

He (Helen) Huang, *Jackson Family Distinguished Professor*

Weili Lin, *Dixie Lee Boney Soo Distinguished Professor*

H. Troy Nagle

Roger Narayan

Koji Sode, *William R. Kenan Jr. Distinguished Professor*

George (Rick) Stouffer, *Ernest and Hazel Craige Distinguished Professor*

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## Professors

Ashley Brown

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Michael Daniele

Paul Dayton

Matthew Fisher

Gregory Forest

Jason Franz

Caterina M. Gallippi

Shawn Gomez  
H. Troy Nagle Jr.  
Derek Kamper  
Weili Lin  
Scott T. Magness  
George (Rick) Stouffer  
John F. Muth  
David Zaharoff

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## Associate Professors

Rahima Benhabbour  
Yevgeny Brudno  
Jacqueline Cole  
Bob Dennis  
Brian Diekman  
Kenneth Donnelly  
Oleg Favorov  
Donald Freytes  
Michael Gamcsik  
David Hill  
Devin Hubbard  
Naji Hussein  
David Lalush  
Wes Legant  
Ming Liu  
Jeffrey Macdonald  
Adriana San Miguel  
Virginie Papadopoulou  
Matthew Penny  
Ross Petrella  
William Polacheck  
Imran Rizvi  
Nitin Sharma  
Emir Uzay  
Anka Veleva

Michael Wiggin

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## Assistant Professors

Amy Adkins Alvarez  
Joseph Burclaff  
Melissa Caughey  
Silvia Ceballos  
Phillip Durham  
Alon Greenbaum  
Geoff Handsfield  
Michael Jay  
Kennita Johnson  
Jinwook Kim  
Margo MacDonald  
Varun Nalam  
Hayley Richardson  
Rinku Roy  
Francisco Santibanez  
Sarah Shelton  
Cameron Taylor  
Michael Wilkins  
Ian Andrew Williamson  
Amol Yadav

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## Lecturers

Kevin R. Grayson  
Nick Jardine