Dartmouth QBS
PhD Degree
The Dartmouth QBS program trains highly qualified students in Bioinformatics, Biostatistics, Epidemiology, and Health Data Science for careers in academia and industry.
What we will cover today

• Dartmouth College and QBS program overview
• Degree requirements and timeline
• Application and admissions
• Program training and academics, degree specific components
• Q & A
• Please sign in so we know who you are!
  https://apply.gs.dartmouth.edu/register/qbs-events
Six reasons to join QBS at Dartmouth

- QBS community
- Interdisciplinary program
- The Ivy League experience
- Dedicated faculty
- Career opportunities
- Strong alumni network
Dartmouth is located on the border of New Hampshire and Vermont
Founded in 1769, Dartmouth is a member of the Ivy League and is a liberal arts college with 4 professional schools:

- Geisel School of Medicine
- Thayer School of Engineering
- Tuck School of Business
- Guarini School of Advanced and Graduate Studies
Quantitative Biomedical Sciences degrees

- **Doctor of Philosophy (PhD)**
  - Interdisciplinary training in Biostatistics, Bioinformatics, & Epidemiology
  - First PhD class in 2011

- **Masters of Science (MS)**
  - Health Data Science
  - Epidemiology
  - Medical Informatics
  - First MS class in 2018
QBS Leadership

• Diane Gilbert-Diamond, ScD
  • Academic Director, Quantitative Biomedical Sciences
  • Associate Professor of Epidemiology
  • Departments of Epidemiology, Medicine and Pediatrics
  • Norris Cotton Cancer Center

• Scott Gerber, PhD
  • Associate Director, Quantitative Biomedical Sciences
  • Professor of Molecular and Systems Biology
  • Kenneth E. and Carol L. Weg Distinguished Professor
  • Department of Molecular and Systems Biology
  • Norris Cotton Cancer Center
QBS administration

Susan Diesel, PhD
Program and Operations Director

Rosemary White
Program Coordinator

Kristine Giffin, PhD
Director of Academic and Student Affairs
QBS Program

47 Faculty Members
44 MS Students
39 PhD Students
Interdepartmental
Multiple collaborations across Dartmouth programs, schools, and departments
• **Mission.** To train highly qualified students for productive careers in biomedical research and teaching through the completion of an interdisciplinary PhD degree in bioinformatics, biostatistics and epidemiology.

• **Philosophy.** The modern biomedical researcher must be able to speak more than one language to successfully collaborate in a highly multidisciplinary environment. Students trained through QBS will be versed in bioinformatics, biostatistics and epidemiology.
Application Deadline: December 1, 2021

Additional application requirements

- 3 letters of recommendation
- Personal statement
- CV/resume
- 2 Supplemental statements
- Transcripts (official if offer accepted)
- Coursework requirements
  - 1 course in calculus
  - 1 course in statistics or equivalent experience
  - 1 course in programming or equivalent experience
Applications: Test Scores

- **GRE**: Optional 20-21, otherwise waived for 4+1 applicants
- **GPA**
- **TOEFL**
- **IELTS**
Admissions

~125+ applicants

40 Remote interviews
  • 4 Faculty
  • 1 Student Panel

Information session

20 offers Accepted students day (Tentative)

10 Students accepted to PhD program
Admissions

Holistic Application Review

- Personal background
- Specific faculty & research of interest
- Genuine interest in program
- Career & learning goals
- Explanations – Poor grades, hardships, frequent school or job changes
Tuition and stipend

• Full tuition scholarship
• Prepaid health insurance plan
• **The student stipend 2021-22: $31,560**
  • Health access fee 20-21: $100.00 per term (fulltime students only)
  • International student fee 20-21: $104.00 per term
  • Student activity fee: $60.00 (charged once a year in Fall)
  • Student record fee: $50.00 (one time fee charged in 1st Fall)
• Adjusted for inflation
• Contingent upon satisfactory performance in studies
• We do not offer financial aid beyond the QBS fellowship
Pre-matriculation

- Techniques of calculus
  - Differentiation and integration of multivariable functions
- Procedural and Object Oriented Programming in
  - R or Python
    - Concepts of algorithms and data structures
- Basic probability and statistical concepts
- QBS 103: Foundations of Data Science:
  - R bootcamp
  - Calculus/Stats Review
Curriculum

- 3 research rotations
- QBS 700: Mandatory Ethics
- Core Courses
  - QBS 110: Integrative Biomedical Sciences Seminar
  - QBS 103: Foundations of Data Science
- Foundational Courses in each:
  - Bioinformatics
  - Biostatistics
  - Epidemiology
Curriculum, continued

- Journal Club (QBS 270 for first year) 9 total
- One quarter of supervised teaching (QBS 196)
- 3.5 units of approved elective courses
- Oral qualifying exam
- Annual research in progress presentations
- Satisfactory completion of a significant research project and preparation of a thesis describing this research
- Successful defense of the thesis in an oral examination and presentation of the work in a public lecture
Current Students: 10

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<th>Category</th>
<th>Percentage</th>
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<td>GRE Average (70% submission)</td>
<td>V-84.85%, Q-86.86%, A-59%</td>
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<td>50%</td>
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<tr>
<td>Female</td>
<td>50%</td>
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Dartmouth employment opportunities

- Self identify
  - Research opportunities
  - General employment via student employment office

- Visa holders
  - 20 hours per week when classes in session
  - 40 hours per week when classes not in session
  - Only work for Dartmouth College, no other employer
Alumni: 29

Current Positions

- 45% Industry
- 24% Academia
- 17% Post-Doc
- 14% Medical Training
COVID-19 and Dartmouth

See Dartmouth’s Health and Prevention page for up-to-date information about

• Arriving on campus
• Ongoing prevention
• Campus resources

https://covid.dartmouth.edu/
Questions?
quant.biomed.sci@Dartmouth.edu