

# Nanobiotechnology (Certificate)

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With financial support from the North Carolina Biotechnology Center, UNC-Chapel Hill and NC State University offer graduate certificates in nanobiotechnology. Tremendous advances in development of nanoscale, nanostructured, and nano-enabled materials for biotechnology applications are currently taking place. In particular, the development of advanced materials (e.g., electronic materials, optical materials, biologically-derived materials, and nanoscale materials) will allow for the development of next generation systems for use in medicine, homeland defense, and agriculture. These systems will provide integration of multiple functions, miniaturization of devices, an increase in stability, and a decrease in cost. In order for universities, companies, and governmental agencies to pursue this highly specialized work, students must be trained at the graduate level to perform work at the interface of nanoscale science and biotechnology. The nanobiotechnology certificates are aligned with the need for highly trained professionals to nurture rapid growth of nanobiotechnology infrastructure in North Carolina. The keystone of the certificates at both universities is a core nanobiotechnology course (BME 540, 3 credit hours), in which lectures, open discussion, and student presentations will be used to introduce students to this area of study.

## More Information

Nanobiotechnology Program Website (<https://bme.unc.edu/2019/10/certificate-in-nanobiotechnology/>)

### Applicant Information

- **Delivery Method:** On-Campus
- **Entrance Exam:** None
- **Interview Required:** None

## Application Deadlines

Please visit The Graduate School Application Deadlines (<https://grad.ncsu.edu/admissions/deadlines/>) page for more information.

## Plan Requirements

Code	Title	Hours	Counts towards
BME 540	Nanobiotechnology Processing, Characterization, and Applications	3	
Select nine hours of electives:		9	
BEC/CHE 562	Fundamentals of Bio-Nanotechnology (courses also offered at UNC-CH)		
CH 747			
BIT 501	Ethical Issues in Biotechnology		

BME 566	Polymeric Biomaterials Engineering	
MSE 539	Advanced Materials	
<b>Total Hours</b>		<b>12</b>