

 <b>FLORIDA ATLANTIC UNIVERSITY</b>	<b>NEW/CHANGE PROGRAM REQUEST</b> <b>Graduate Programs</b>	UGPC Approval _____ UFS Approval _____ Banner _____ Catalog _____
	<b>Department</b> Comp. and Electrical Eng and Comp. Science  <b>College</b> Engineering and Computer Science	
<b>Program Name</b> Current name: Bioengineering Certificate Change to: Biomedical Engineering Certificate	<input type="checkbox"/> <b>New Program*</b>  <input checked="" type="checkbox"/> <b>Change Program*</b>	<b>Effective Date</b> (TERM & YEAR)  Summer 2021
<b>Please explain the requested change(s) and offer rationale below or on an attachment.</b>  <p>This proposal requests to change the name of the program from Bioengineering Certificate to Biomedical Engineering Certificate. This change is driven by the research expertise and activity of our faculty in areas of biomaterials, tissue engineering, neuroengineering, medical image analysis, and smart health. The catalog change is attached.</p> <p>CIP code: 14.0501          "Bioengineering and Biomedical Engineering. A program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of biomedical and health systems and products such as integrated biomedical systems, instrumentation, medical information systems, artificial organs and prostheses, and health management and care delivery systems. Examples: [Cell and Tissue Engineering], [Neural Engineering], [Biomaterials Engineering]."</p>		
<small>*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.</small>		
<b>Faculty Contact/Email/Phone</b>  Hanqi Zhuang/zhuang@fau.edu/561-297-3413	<b>Consult and list departments that may be affected by the change(s) and attach documentation</b>  Department of Biomedical Science	
<b>Approved by</b> Department Chair _____ <b>Hanqi Zhuang</b> <small>Digitally signed by Hanqi Zhuang Date: 2020.10.06 19:12:13 -04'00'</small> College Curriculum Chair _____ <b>Francisco Presuel-Moreno</b> <small>Digitally signed by Francisco Presuel-Moreno DN: cn=Francisco Presuel-Moreno, o=Florida Atlantic University, ou=Ocean and Mechanical Engineering, email=fpresuel@fau.edu, c=US Date: 2020.10.11 19:17:14 -0400'</small> College Dean _____ <i>M. Carde</i> <small>Digitally signed by M. Carde DN: cn=M. Carde, email=carde@fau.edu, o=Florida Atlantic University, ou=College of Engineering, c=US Date: 2020.10.11 19:17:14 -0400'</small> UGPC Chair _____ <i>Christopher Beetle</i> UGC Chair _____ <i>Paul R. P...</i> Graduate College Dean _____ <i>Robert W. Stackman Jr.</i> <small>Robert W. Stackman Jr. (Dec 18, 2020 22:30 EST)</small> UFS President _____ Provost _____	<b>Date</b> _____ _____ 10/11/2020 Dec 18, 2020 Dec 18, 2020 Dec 18, 2020 _____ _____	

Email this form and attachments to [UGPC@fau.edu](mailto:UGPC@fau.edu) 10 days before the UGPC meeting.

### **Biomedical Engineering Bioengineering Certificate**

The College offers a graduate non-degree-seeking certificate in [Biomedical Engineering Bioengineering](#). This certificate program is a practice-oriented, part-time graduate program designed to assist engineers, scientists, technical professionals and qualified senior undergraduates in the launch and/or development of their careers and to provide the technical expertise needed in the rapidly changing business, government and industrial environments.

#### **Program Highlights**

This is a 15-credit graduate non-degree-seeking certificate program focused on the application of engineering and computer science principles to biotechnology, bioinformatics and biosystems. It is designed for engineers and scientists working in the biotechnology, pharmaceutical, health care, drug discovery, biomedical, medical instrumentation and allied sectors.

#### **Admission Requirements**

The applicant must satisfy the following criteria:

1. A bachelor's degree in biology, chemistry, physics or engineering with a mathematics background through Calculus 2 or calculus with basic differential equations. Qualified senior undergraduates may be accepted into the graduate certificate program with appropriate committee recommendation;
2. GPA of 3.0 in science, mathematics and engineering courses;
3. No GRE scores are necessary. Student transcripts should demonstrate competency in science, mathematics and engineering coursework.

#### **Certificate Requirements**

1. PCB 3063, Genetics, (or an equivalent course) as a deficiency requirement with a minimum grade of "C";
2. 9 credits of [Biomedical Engineering Bioengineering](#) courses such as Introduction to [Bioengineering Biomedical Engineering](#), Biosystems Modeling and Control, Bioinformatics: [Bioengineering Biomedical](#) Perspectives, Tissue Engineering, Stem Cell Engineering, Biomaterials, Introduction to Microfluidics and BioMEMS, Introduction to Robotics, NanoBiotechnology, Robotic Applications and Orthopedic Biomechanics, Medical Imaging and Bio-Signal Processing;
3. 6 credits of Science courses relevant to [Biomedical Engineering Bioengineering](#) such as Special Topics (Advanced Biotechnology Lab), Bioinformatics and Neuroscience 1 and 2;
4. The grade point average of the above 15 credits must be 3.0 or better.
5. All courses must be at the 5000 and 6000 levels.

**From:**Marc Kantorow <MKANTORO@health.fau.edu>  
**Sent:**Thursday, November 19, 2020 10:12 AM  
**To:**Mihaela Cardei <mcardei@fau.edu>  
**Cc:**Phillip Boiselle <pboiselle@health.fau.edu>; Janet Robishaw <jrobishaw@health.fau.edu>; Bridget Smith <BSTATLER@health.fau.edu>; Hanqi Zhuang <zhuang@fau.edu>  
**Subject:**Re: Please help: Biomedical Engineering: Program and Course Title Changes

Hi Mihaela,

Thank you for the information and for giving our Graduate Strategic Planning Committee the time needed to evaluate the program changes. The Committee met yesterday and I am happy to report their support for your proposal. The Committee expressed their desire to continue to build on existing collaborations between COM and Engineering faculty and we look forward to a productive partnership.

Please don't hesitate to reach out if you have any questions or if there is anything we can do to help.

All the best,  
Marc

Marc Kantorow PhD FARVO  
Professor of Biomedical Science  
Associate Dean for Graduate Programs  
Charles E. Schmidt College of Medicine  
Florida Atlantic University  
Boca Raton, FL USA 33431  
[mkantoro@health.fau.edu](mailto:mkantoro@health.fau.edu)  
561-297-2910

**From:**Mihaela Cardei <mcardei@fau.edu>  
**Date:**Monday, November 9, 2020 at 2:28 PM  
**To:**Marc Kantorow <MKANTORO@health.fau.edu>  
**Cc:**Janet Robishaw <jrobishaw@health.fau.edu>, Bridget Smith <BSTATLER@health.fau.edu>, Hanqi Zhuang <zhuang@fau.edu>  
**Subject:**Re: Please help: Biomedical Engineering: Program and Course Title Changes

Hi Marc,

Thank you for the update. I have sent you previously the link to the current program (<http://www.ceecs.fau.edu/graduate/ms/bioengineering/index.php>), and I wanted to mention that if you check the Program Worksheet ([http://www.ceecs.fau.edu/graduate/ms/bioengineering/pdf/ms\\_worksheet-bioeng.pdf](http://www.ceecs.fau.edu/graduate/ms/bioengineering/pdf/ms_worksheet-bioeng.pdf)), you can see the variety of elective courses including courses from College of Medicine and College of Science.

If the committee needs any additional information, please let me know.

Best regards,  
Mihaela

---

**From:**Marc Kantorow <MKANTORO@health.fau.edu>  
**Sent:**Monday, November 9, 2020 12:44 PM  
**To:**Mihaela Cardei <mcardei@fau.edu>  
**Cc:**Janet Robishaw <jrobishaw@health.fau.edu>; Bridget Smith <BSTATLER@health.fau.edu>  
**Subject:**Re: Please help: Biomedical Engineering: Program and Course Title Changes

Hi Mihaela,  
Just wanted to update you that our committee will be reviewing the materials and will be meeting soon to discuss.  
Please let me know if you have any questions.  
All the best,  
Marc

Marc Kantorow PhD FARVO  
Professor of Biomedical Science  
Associate Dean for Graduate Programs  
Charles E. Schmidt College of Medicine  
Florida Atlantic University  
Boca Raton, FL USA 33431  
[mkantoro@health.fau.edu](mailto:mkantoro@health.fau.edu)  
561-297-2910

**From:**Mihaela Cardei <mcardei@fau.edu>  
**Date:**Thursday, November 5, 2020 at 11:57 AM  
**To:**Marc Kantorow <MKANTORO@health.fau.edu>  
**Cc:**Janet Robishaw <jrobishaw@health.fau.edu>, Bridget Smith <BSTATLER@health.fau.edu>, Hanqi Zhuang <zhuang@fau.edu>  
**Subject:**Re: Please help: Biomedical Engineering: Program and Course Title Changes

Hello Marc,

Thank you for your prompt reply. All the material is already included in the email below, please click on the links. If you need additional information, please be specific and we will get back to you as soon as possible.

thank you,  
Mihaela

---

CONFIDENTIALITY NOTICE: The information contained in this transmission may contain privileged and confidential information, including patient information protected by federal and state privacy laws. It is intended only for the use of the person(s) named above. If you are not the intended recipient, you are hereby notified that any review, dissemination, distribution, or duplication of this communication is strictly prohibited. If you are not the intended recipient, please contact the sender by reply email, report the error to FAU's Chief Compliance Officer, and destroy all copies of the original message.