FAU **FLORIDA** **ATLANTIC** **UNIVERSITY**	**NEW/CHANGE PROGRAM REQUEST** **Graduate Programs**	UGPC Approval _____ UFS Approval _____ Banner _____ Catalog _____
	Department Computer and Electrical Eng. and Comp. Science **College** Engineering and Computer Science	

Program Name MS Biomedical Engineering Certificate in Biomedical Engineering	☐ **New Program*** ✔ **Change Program***	**Effective Date** *(TERM & YEAR)* Fall 2021

Please explain the requested change(s) and offer rationale below or on an attachment.

Small revisions based on course title change: PSB 6345 Neuroscience 1 (change to: "Cellular and Molecular Neuroscience") and PSB 6346 Neuroscience 2 (change to: "Systems and Integrative Neuroscience")

*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.

Faculty Contact/Email/Phone Hanqi Zhuang, zhuang@fau.edu, 561-297-3413	**Consult and list departments that may be affected by the change(s) and attach documentation**

Approved by		**Date**
Department Chair	Hanqi Zhuang — Digitally signed by Hanqi Zhuang Date: 2021.03.02 21:38:15 -05'00'	
College Curriculum Chair	Francisco Presuel-Moreno — 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: 2021.03.04 09:49:00 -05'00'	
College Dean	M Cardei — Digitally signed by Mihaela Cardei DN: cn=Mihaela Cardei, o=Florida Atlantic University, ou, email=mcardei@fau.edu, c=US Date: 2021.03.04 13:26:22 -05'00'	3/4/2021
UGPC Chair		
UGC Chair		
Graduate College Dean		
UFS President		
Provost		

Email this form and attachments to UGPC@fau.edu 10 days before the UGPC meeting.

Master of Science with Major in Biomedical Engineering

Electives

Thesis Option: 12 credits of elective courses as follows.

At least 9 credits from the Advising Sheet list of Engineering and Computer Science or Science Biomedical Engineering courses (such as Tissue Engineering, Stem Cell Engineering, Biomaterials, Introduction to Microfluidics and BioMEMS, Introduction to Robotics, NanoBiotechnology, Robotic Applications and Orthopedic Biomechanics, Medical Imaging, Bio-Signal Processing and Bioinformatics).

Up to 3 elective credits of approved Engineering and Computer Science or Science coursework may be added (courses such as Digital Signal Processing, Digital Image Processing, Machine Learning and Artificial Intelligence, Modern Control, Advanced Database Systems, Nanotechnology, ~~Neuroscience 1 and 2,~~ Cellular and Molecular Neuroscience, Systems and Integrative Neuroscience, or a directed independent study course).

Non-Thesis Option: 18 credits of elective courses as follows.

At least 9 credits from the Advising Sheet of Engineering and Computer Science or Science Biomedical Engineering courses (such as Tissue Engineering, Stem Cell Engineering, Biomaterials, Introduction to Microfluidics and BioMEMS, Introduction to Robotics, NanoBiotechnology, Robotic Applications and Orthopedic Biomechanics, Medical Imaging, Bio-Signal Processing and Bioinformatics).

Up to 9 elective credits of approved Engineering and Computer Science or Science coursework may be added (courses such as Digital Signal Processing, Digital Image Processing, Machine Learning and Artificial Intelligence, Modern Control, Advanced Database Systems, Nanotechnology, ~~Neuroscience 1 and 2,~~ Cellular and Molecular Neuroscience, Systems and Integrative Neuroscience, Immunology, Biology of Cancer, or an additional directed independent study course).

Up to 6 elective credits may be free elective courses (not included on the Biomedical Engineering Advising Sheet) subject to approval of the Biomedical Engineering Program Advisor.

Biomedical Engineering Certificate

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 courses such as Introduction to Biomedical Engineering, Biosystems Modeling and Control, Bioinformatics: Biomedical Engineering 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 such as Special Topics (Advanced Biotechnology Lab), Bioinformatics, Cellular and Molecular Neuroscience, Systems and Integrative Neuroscience; ~~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.