

**PROGRESSIVE DEGREE PROGRAM
COURSE PLAN TEMPLATE**

USC SCHOOL	Viterbi School of Engineering
ACADEMIC DEPARTMENT	Biomedical Engineering
GRADUATE PROGRAM	Master of Science in Medical Device & Diagnostic Engineering
POST CODE	1219
TERM EFFECTIVE DATE	Spring 2021

PROGRAM DESCRIPTION

A brief description of the graduate program.

This program is designed to provide the knowledge and skills needed for the development of medical devices and diagnostic techniques, including aspects of medical product regulation and product development.

COMMON BACHELOR DEGREE PROGRAM PATHWAYS

A list of common bachelor's degrees that undergraduate students pursue in advance of pursuing a progressive degree option with this graduate program. Some programs are restricted to certain majors while others are open to all students.

MATH – 245	
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PREPARATORY UNDERGRADUATE COURSES

A list of courses at the undergraduate level that prepare students for the graduate program. Required coursework is listed first, followed by recommended courses. If not applicable, this section will be blank.

Dept. Prefix - Course #	Course Title	Required or Recommended	Units
BME – 202	Control and Communication in the Nervous System	X	4
BME – 403	Physiological Systems	X	4

UNDERGRADUATE COURSES USED TO REDUCE GRADUATE LEVEL UNITS

A list of undergraduate level courses that may be used to reduce the number of graduate level units required for the graduate program. If there are none, that is specified instead.

Dept. Prefix - Course #	Course Title	Units
BME – 202	Control and Communication in the Nervous System	4
BME – 403	Physiological Systems	4

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CORE GRADUATE PROGRAM REQUIREMENTS (# units required)

A list of all required graduate courses for the graduate program. None of these courses may be used toward satisfying undergraduate degree requirements.

If special exceptions for any of these courses are made by the academic department, the course # is marked with an asterisk () and the exception is explained in the "Department Notes" section at the end of this course plan template.*

Dept. Prefix - Course #	Course Title	Units
BME-650	Biomedical Measurement and Instrument	4
MPTX-511	Introduction to Medical Product Regulation	3
ISE-545	Technology Development and Implementation	3
BME-501*	Advanced Topics in Biomedical Systems	4
MPTX-515	Quality Systems and Standards	3
MPTX-513**	Regulation of Medical Devices and Diagnostics	3
RSCI-527**	Medical Product Safety	3
BME-535***	Ultrasonic Imaging	3
BME-551***	Introduction to bio-MEMS and Nanotechnology	4
BME-552***	Neural Implant Engineering	3
BME-620L***	Applied Electrophysiology	4
ISE-515****	Engineering Project Management	3
ISE-555****	Invention and Technology Development	3
Technical Elective*****	500-level and above	6 - 8

PRE-APPRED ELECTIVE COURSEWORK

Elective coursework is approved at the discretion of the academic department. Note the following details about the total number and units required of elective coursework.

1 - 3

TOTAL ELECTIVE UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE

8

TOTAL ELECTIVE UNITS REQUIRED FOR THE PROGRESSIVE GRADUATE DEGREE

TOTAL UNIT COUNTS AND REQUIRED GRADUATE UNITS

26

TOTAL UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE

5

TOTAL GRADUATE UNITS THAT MAY BE WAIVED (IF ANY)

21

MINIMUM NUMBER OF GRADUATE UNITS THAT MUST BE AT THE 500 LEVEL OR ABOVE

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NOTES FROM THE DEPARTMENT

This section highlights any unique considerations, exceptions, or requirements for the graduate program. If a program has specific restrictions (courses, majors, etc.), they are detailed below.

*Students will need to select 1 of 3 following courses to take: BME-501, BME-502 or BME-513. If the UG student has taken BME-403, then BME-501 can be waived for the PDP graduate program. If the UG student has taken BME-202, then BME-502 can be waived for the PDP graduate program.

Students are required to select 1 of 3 track options.

**Regulation Track option

***Medical Technology & Device Science Track option: students select 2 of 4 following courses to take: BME-535, BME-551, BME-552 and BME-620L.

****Product Development Track option

*****Technical Elective: BME UG majors would complete 8 units and non-BME UG majors would complete 6 - 8 units.

Kelly Goulis

April 7, 2021

Authorizing Dean's Name

Date Approved

Senior Associate Dean, Viterbi School of Engineering

Authorizing Dean's Title