

# DOCTOR OF PHILOSOPHY IN ENGINEERING (ABE) PLAN OF STUDY

Name:		CSU ID:	
DATE:	email:	SPECIALIZATION: ABE	
<b>REQUIRED: Minimum of <u>90 credits beyond the BS degree, including 40 credits of coursework.</u></b>			
<b>A. Advanced engineering math – minimum 2 courses (6 credits)</b>		<b>Semester</b>	<b>Grade</b>
<i>A list of allowable courses are listed on the PhD in Engineering program website. Please enter the course name in the provided box.</i>			
BME 770 Biomedical Signal Processing	CR		
	CR		
<b>B. Research Communications - minimum 2 courses (4 credits)</b>			
ESC 720 Research Communications, or <i>approved alternate course (see PhD in Engineering web page)</i>	CR		
ESC 850 Doctoral Seminar	1 CR		
<b>C. ABE Specialization Requirements – minimum 15 credits</b>			
BIO 624/824 Foundations of Biomedical Physiology	3 CR		
BME 553/753 Cell and Tissue Biology	CR		
BME 658/758 Medical Devices	CR		
BME 580 Biomedical Instrumentation	CR		
BME 655/755, 659/759, or 651/751	CR		
	CR		
	CR		
<b>D. Specialization Elective courses – minimum 12 credits. Any engineering course at 500 level or higher approved by your advisor.</b>			
	CR		
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	CR		
<b>E. Flexible credits – minimum of 23 credits. Flexible credits could be from the College of Engineering or other Colleges at CSU, with a combination of course work (500-level or above) and research/ dissertation credits and must be approved by the doctoral program director.</b>			
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**F. Doctoral Research Credits – minimum 30 credits of BME 895 and BME 899**

*A maximum of 10 cr. of Doctoral Research may be applied towards the minimum 30-hour research credits requirement.  
A minimum of 20 cr. of Dissertation is necessary towards the minimum 30-hour research credits requirement.*

**BME 895 Doctoral Research**

CR	SEM	GRADE	CR	SEM	GRADE
CR	SEM	GRADE	CR	SEM	GRADE
CR	SEM	GRADE	CR	SEM	GRADE

**BME 899 Dissertation**

CR	SEM	GRADE	CR	SEM	GRADE
CR	SEM	GRADE	CR	SEM	GRADE
CR	SEM	GRADE	CR	SEM	GRADE
CR	SEM	GRADE	CR	SEM	GRADE

**G. Total course credits (non-research) taken at CSU (20 credits minimum):** **CR**

**Total credits (course and research combined) taken at CSU (60 credits minimum):** **CR**

**Total credits beyond the bachelor's degree (90 cr. min/ 60 cr. min after MS)** **CR**

**H. Date of satisfactory completion of the Qualifying Exam:** **DATE:**

*Qualifying examination must be completed before 24 credit hrs have been taken in the doctoral program.*

**Date of satisfactory completion of the Candidacy Exam:** **DATE:**

*After completion of the candidacy, the doctoral candidate must provide a progress report annually to the dissertation committee, in the form of an oral presentation (preferred) or a written report.*

**I. APPROVALS**

Student: \_\_\_\_\_ DATE \_\_\_\_\_

Academic advisor: \_\_\_\_\_ DATE \_\_\_\_\_

Research advisor: \_\_\_\_\_ DATE \_\_\_\_\_

Doctoral program director: \_\_\_\_\_ DATE \_\_\_\_\_