Computer Engineering

BS in Computer Engineering (Fall 2019 & Later)

Minimum 120 credits required for Bachelor's degree

Foundational Core (30-32 Credits)		Grade
FYS 125[1]	First Year Seminar	
CTL 125	Critical Thinking	
MA ____	Foundational Core Math course [3]	
Choose 1 course from each area *		
[2]Natural and Physical Science [4]		
Literature		
History	HI-100 or HI-102	
Arts/Design/Comm. [5]		
Philosophy		
Theology/Relig		
Social/Behavioral Science [6]		

Human Journey Seminars: Great Books in CIT (6 Credits)

CIT 201	CIT Seminar I	
CIT 202	CIT Seminar II	

Liberal Arts Explorations (9 Credits Total)

Student must complete one course in each area. (see list on Registrar's Website - checksheets)		
Humanistic Inquiry (3 credits)		
Social and Global Awareness		
Scientific Literacy (3 credits) [7]		

* See list of courses.

[1](Requires Grade C or higher)

[2]Science/Natural Science courses includes approved Math and Computer Science courses. Students are required to take at least one course in Biology, Chemistry, or Physics in the Foundational or Liberal Arts Exploration Core. CS and MA courses may be used as a Science/Natural Science in either the Foundational Core **or** as a requirement in the LAE Core but not in both categories.

[3] MA106/MA140/MA151 may count in this area

[4] PY151/153 may count in this area

[5] AR114 is recommended

[6] EC101 or EC202 is recommended

[7] MA332 may count in this area

Note: MA 006 and ESL courses **will not** count towards the 120 credit graduation requirement.

Approved Study Abroad courses may be used to satisfy requirements for the foundational core or a Liberal Arts Exploration

A maximum of 8 Applied Music credits may be applied towards graduation

85 credits **COMPUTER ENGINEERING MAJOR**

	Engineering Courses		Grade	Credits
3	CSE 125	Computer Science and Engineering Explorations		1
3	ENGR 125	Engineering Explorations		1

	Computer Engineering Courses		Grade	
	ECE 200	Computational Methods in Engineering		3
3	CPE 211	Circuits and Systems with Lab		3
3	CPE 212	Digital Design with Lab		3
3	CPE 311	Computer Architecture & Design with Lab		3
3	CPE 313	Systems and Signal Processing with Lab		3
3	CPE 324	Embedded Systems with Lab		3
3	CPE 325	FPGA Design with Lab		3
	CPE 413	Internship in Engineering		3
	CPE 4xx	CPE elective or internship/co-op		3
	CPE 4xx	CPE elective		3
3	CPE 4xx	CPE elective		3
3	CPE 417	Engineering Design Project I		2
	CPE 418	Engineering Design Project II		3

	Potential Computer Engineering Electives		Grade	
	CPE 411	Digital Image Processing with Lab		3
3	CPE 412	Microelectronic Circuits with Lab		3
	CPE 414	Directed Research in Engineering		3
	CPE 419	Cooperative Studies in Engineering		6

	Computer Science Courses		Grade	
	CS 111	Introduction to Structured Programming		3
	CS 112	Data Structures		3
	CS 113	Discrete Structures		3
	CS 319	Computer Ethics		3
	CS 339	Networking and Data Communications		3

	Required Supporting Courses		Grade	
	MA 151	Calculus I		4
	MA 152	Calculus II		4
	MA 253	Calculus III		4
	MA 354	Differential Equations		3
	MA 261	Linear Algebra		4
	MA 332	Statistics **		3
	PY151/153	Principles of Physics I and Lab		4
	PY152/154	Principles of Physics II and Lab		4
	MUST HAVE GRADE OF "C" OR BETTER			

Checksheet Key

T	Course transferred and Requirement satisfied
W	Requirement waived
TW	Course transferred and Requirement waived

** Counts in LAE

WELCH COLLEGE OF BUSINESS

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

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YEAR 1	SEMESTER I	YEAR 1	SEMESTER 2
FYS 125	First Year Seminar	CTL 125	Critical Thinking
MA 151	Calculus I	MA 152	Calculus II
CS 111	Intro to Structured Programming	CS 112	Data Structures
CSE 125	Computer Science and Engineering Explorati	CS 113	Discrete Structures
HI 100 or 102	Foundational Core	ENGR 125	Engineering Explorations

YEAR 2	SEMESTER 3	YEAR 2	SEMESTER 4
CIT 201	CIT Seminar I	CIT 202	CIT Seminar II
CPE 211	Circuits and Systems with Lab	CPE 212	Digital Design with Lab
MA 253	Calculus III	MA 354	Differential Equations
PY 151/153	Principles of Physics I / Lab	PY 152/154	Principles of Physics II / Lab
ECE 200	Computational Methods in Engineering		Foundational Core

YEAR 3	SEMESTER 5	YEAR 3	SEMESTER 6
CPE 311	Computer Architecture & Design with Lab	MA 261	Linear Algebra
CPE 313	Systems and Signal Processing with Lab	MA 332	Statistics (LAE Literacy)
CPE 325	FPGA Design with Lab	CS 339	Networking and Data Communication
CS 319	Computer Ethics (LAE awareness)	CPE 324	Embedded Systems with Lab
	Foundational Core		Foundational Core

YEAR 4	SEMESTER 7	YEAR 4	SEMESTER 8
CPE 417	Engineering Design Project I	CPE 418	Engineering Design Project II
CPE 413	Internship in Engineering	CPE 4xx	Internship or Technical Elective
CPE 4xx	CPE Elective	CPE 4xx	CPE Elective