SCHOOL OF ENGINEERING

CHEMICAL AND BIOCHEMICAL ENGINEERING • CIVIL AND ENVIRONMENTAL ENGINEERING • ELECTRICAL AND COMPUTER ENGINEERING • MECHANICAL ENGINEERING • ENGINEERING MANAGEMENT

ADMINISTRATION

DR. ERIC B. WELCH, *Dean*

DR. ERIC B. WELCH, *Acting Chair, Electrical and Computer Engineering*

DR. BERNARD B. BEARD, *Chair, Mechanical Engineering Department*

DR. NEAL F. JACKSON, *Director of Engineering Management*

MR. R. EUGENE McGINNIS, *Chair, Civil and Environmental Engineering Department*

DR. ALI POURHASHEMI, *Chair, Chemical and Biochemical Engineering Department*

FACULTY

CHEMICAL AND BIOCHEMICAL ENGINEERING

ALI POURHASHEMI, *Associate Professor*
B.S., M.S., Howard University; Ph.D., University of Maryland (College Park)

RANDEL M. PRICE, *Associate Professor*
B.S., University of Missouri (Columbia); M.S., University of Arkansas; Ph.D., Lehigh University

ASIT K. RAY, *Professor*[1]
B.S., Calcutta University; M.S., Ph.D., Lehigh University

CIVIL AND ENVIRONMENTAL ENGINEERING

L. YU LIN, *Professor*
B.S., Feng-Chia University; M.S., University of Cincinnati; Ph.D., University of Central Florida; P.E.

K. MADHAVAN, *Professor*
B.E., Annamalai University (India); M.Tech., Indian Institute of Technology; M.S., Memphis State University; Ph.D., University of Mississippi; P.E.

SIRIPONG MALASRI, *Professor*
B.E., Chulalongkorn University; M. Engr., Asian Institute of Technology (Thailand); Ph.D., Texas A&M University, P.E.

R. EUGENE McGINNIS, *Assistant Professor*
B.S., M.S., Memphis State University; P.E.

ELECTRICAL AND COMPUTER ENGINEERING

JUAN CARLOS OLABE-BASOGAIN, *Professor*
M.S., Ph.D., Universidad Politecnica de Madrid (Spain); I.T.

[1] Sabbatical during Fall Semester 2006.

ROBERT L. DRAKE, *Professor*
B.S., M.S., Tulane University; Ph.D., Mississippi State University; P.E.

FRED H. TERRY, *Professor*
B.S., M.S., Rose Polytechnic Institute; Ph.D., Case Institute of Technology; P.E.

H. JOHN VENTURA, *Assistant Professor*
B.S., Christian Brothers College; M.E., University of Florida;
Ed.S., Ph.D., Nova Southeastern University; P.E.

ERIC B. WELCH, *Associate Professor*
B.S., M.S., Ph.D., Mississippi State University

MECHANICAL ENGINEERING

BERNARD B. BEARD, *Associate Professor*
B.S., M.S., Ph.D., Massachusetts Institute of Technology

RAY W. BROWN, *Professor*
B.S., Christian Brothers College; M.S., Ph.D., University of Notre Dame

JOSEPH M. LONDINO, Jr., *Assistant Professor*
B.S., M.S., Marquette University; Ph.D, University of Notre Dame

YEU-SHENG SHIUE, *Professor*
B.S., Tatung Institute of Technology; M.S., Ph.D., Memphis State University

ENGINEERING MANAGEMENT

NEAL F. JACKSON, *Professor*
B.S., Memphis State University; M.S., University of Arkansas;
Ph.D., University of Mississippi

PART-TIME FACULTY

CHADWICK BAKER, *Adjunct Professor*
B.S., Christian Brothers College; M.S., Ph.D., Duke University

SCOTT HAIGHT, *Adjunct Assistant Professor*
B.A., Davidson College; JD., Emory University

CHRISTINE ROUÉCHE, *Adjunct Assistant Professor*
M.S. Université de Technologie de Compiégne (France);
Ph.D., Université de Rennes (France)

YONGQUAN ZHOU, *Lecturer*
BE., M.E., Wuxi Institute of Light Industry (China);
M.S., Rochester Institute of Technology; CPP

PROFESSORS EMERITI

R. CRAIG BLACKMAN
B.A. Park College; M.A. New Mexico State; M.S., University of Colorado, Boulder

DONALD L. GLASER
B.S., Christian Brothers College; M.E.E., University of Louisville

REGINALD J. RODRIGUEZ
B.S., M.Engr., University of Florida; P.E.

MISSION

CHRISTIAN BROTHERS UNIVERSITY offers engineering programs in four departments: Chemical and Biochemical, Civil and Environmental, Electrical and Computer, and Mechanical Engineering, accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (111 Market Place, Suite 1050; Baltimore, MD 21202-4012; telephone number 410-347-7700). Each curriculum is sufficiently flexible to permit a student to tailor a course of study for entry into the engineering profession immediately or for continued study in graduate school. While most graduates do remain in the engineering profession, a significant number use their engineering background as a foundation for professional careers in law, medicine, business, education, science and other fields.

The objective of our chemical, civil, electrical, and mechanical engineering programs at Christian Brothers University is twofold: (1) to continue the Lasallian tradition through excellence in teaching and focusing on the individual student, and (2) to prepare our graduates for professional careers and advanced study in engineering and for a life of moral responsibility and constructive community involvement.

Because the engineer applies scientific principles and practical judgment to the economic solution of many problems concerned with human welfare, the education must include, in addition to courses in engineering analysis and design, numerous courses in natural sciences, in mathematics, and in liberal studies. Thus, the total engineering program at Christian Brothers University provides each student with a liberal education, designed to permit the graduate to make important contributions not only toward the solution of specific technical problems, such as those found in automobile engine or computer circuit design, but also toward such compelling problems of society that are found in transportation, communications, urban redevelopment, energy production and conservation, and air and water quality.

Engineering design is the heart of the creative process of devising solutions to many of society's problems. In the design process, all of an engineer's knowledge of scientific principles and practical judgment is integrated toward the solution of specific problems. The student at Christian Brothers University begins practice in design during the first year, at the same time gaining knowledge and skills in science, mathematics, and communications. This practice in design is integrated through the four years of the program culminating in an independent design project during the senior year.

DEGREE REQUIREMENTS

The Engineering programs at Christian Brothers University are designed to graduate students who will be able to excel as engineering professionals as described above. This requires an integrated program of mathematics, basic sciences, humanities and social sciences, engineering sciences and engineering design. A balance is struck between breadth and depth, technical and non-technical content, and rigor and flexibility. Students must meet departmental requirements as listed in the paradigms that follow this section.

In the case of transfer students, at least one half of the upper division major courses (300-400 level courses in CHE, CE, ECE or ME and upper division Chemistry in the case of CHE) must be taken at Christian Brothers University. Normally, junior and senior level courses from non-ABET accredited programs will not be transferred.

In order to graduate, a student must attain a 2.0 overall grade point average and a 2.0 in the

major (CHE, CE, ECE or ME courses and advanced chemistry in the case of Chemical Engineering) and program option.

DUAL DEGREE

The School of Engineering and the School of Sciences offer a dual degree program for students interested in electrical engineering and computer science. With careful coordination, thiss program allows students to earn both degrees in a normal undergraduate time frame. For specific degree requirements, see Page 91.

JOINT DEGREE

The School of Engineering and the School of Business jointly offer a Bachelor of Science in Engineering Management for students interested in pursuing management positions at engineering firms or other technologically based businesses. For specific degree requirements, see Pages 80 and 93.

SUMMARY OF COURSE REQUIREMENTS

Students must take two courses in English Composition. In order to acquire the breadth and depth in liberal studies necessary for a successful engineering career, students must take two courses in social sciences, one course in English literature, two courses in religious studies, and one course in moral values.

Program Option (department approved 300/400 level courses in Mathematics, Science, Engineering or Business or advanced ROTC courses—3 hours maximum is allowed for ROTC courses) courses should be part of an integrated sequence of courses consistent with the overall aims and objectives of the School of Engineering. The integrated sequence must receive approval from the student's advisor.

Moral values courses include: PHIL 213, 219, 220, 224, 234, 321, 322, 323, 324, 325, 340.

The religion courses will include one course at the 200 level followed by one at the 300 level or above.

The three-course emphasis on religion and moral values provides depth consistent with the mission of Christian Brothers University and the needs of society and the engineering profession.

COURSE REQUIREMENTS FOR A B.S. IN CHEMICAL ENGINEERING

BIOCHEMICAL ENGINEERING CURRICULA

FRESHMAN YEAR Semester I	Credits	Semester II	Credits
CH E 101 CH E Project	1	BIOL 112 Prin Biology II & Lab	4
CH E 111 Intro Chem Enginneering	1	CHEM 114 Prin of Chemistry II	3
CHEM 113 Prin of Chemistry I	3	CHEM 114L Chemistry II Lab	1
CHEM 113L Chemistry I Lab	1	ENG 112 English Composition II	3
ENG 111 English Composition I	3	MATH 132 Calculus II	3
MATH 131 Calculus I	3	Liberal Studies	3
BIOL 111 Prin Biology I & Lab	4		
Liberal Studies	3		
Orientation	0		
Total	**19**	**Total**	**17**

SOPHOMORE YEAR Semester I	Credits	Semester II	Credits
CH E 201 CH E Project	1	CH E 232 Material & Energy Bal	4
CH E 231 Elem Thermodynamics	3	CHEM 212 Organic Chem II & Lab	4
CHEM 211 Organic Chem I & Lab	4	MATH 232 Calculus III	3
MATH 231 Differential Equations	3	PHYS 251 Physics II	3
PHYS 150 Physics I	3	PHYS 251L Physics Lab II	1
PHYS 150L Physics I Lab	1	Liberal Studies	3
Liberal Studies	3		
Total	**18**	**Total**	**18**

JUNIOR YEAR Semester I	Credits	Semester II	Credits
CH E 301 CH E Project	1	BIOL 321 Microbiology & Lab	4
CH E 314 Engineering Economy	3	CH E 324 Heat Transfer	3
CH E 323 Fluid Mechanics	3	CH E 326 Junior Lab II	1
CH E 325 Junior Lab I	1	CHE 330 Mass Transfer & Separations	3
CH E 327 Chem. Engr. Thermo	3	ECE 221 Electrical Circuits I	3
CHEM 351 Physical Chemistry I	3	Liberal Studies	3
CHEM 351L Physical Chem I Lab	1		
Total	**15**	**Total**	**17**

SENIOR YEAR Semester I	Credits	Semester II	Credits
CH E 401 CH E Project	2	CH E 402 CH E Project	2
CH E 425 Process Design I	3	CH E 426 Process Design II	3
CH E 437 Modeling & Control	3	CH E 442 Senior Lab II	1
CH E 441 Senior Lab I	1	CH E 446 Biochemical Engineering	3
CH E 443 Reactor Design	3	Liberal Studies	3
CHEM 312/312L Biochemistry & Lab	4		
Total	**16**	**Total**	**12**

Total credits for graduation: 132.

COURSE REQUIREMENTS FOR A B.S. IN CHEMICAL ENGINEERING

CHEMICAL ENGINEERING CURRICULA

FRESHMAN YEAR Semester I	Credits
CH E 101 CH E Project	1
CH E 111 Intro Chemical Engineering	1
CHEM 113 Prin of Chemistry I	3
CHEM 113L Chemistry I Lab	1
ENG 111 English Composition I	3
MATH 131 Calculus I	3
Liberal Studies	3
Liberal Studies	3
Orientation	0
Total	**18**

Semester II	Credits
CHEM 114 Prin of Chemistry II	3
CHEM 114L Chemistry II Lab	1
ENG 112 English Composition II	3
MATH 132 Calculus II	3
Liberal Studies	3
Liberal Studies	3
Total	**16**

SOPHOMORE YEAR Semester I	Credits
CH E 201 CH E Project	1
CH E 231 Elem Thermodynamics	3
CH E 245 Materials Science	3
CHEM 211 Organic Chem & Lab	4
MATH 231 Differential Equations	3
PHYS 150 Physics I	3
PHYS 150L Physics I Lab	1
Total	**18**

Semester II	Credits
CHEM 212 Organic Chem II & Lab	4
CH E 232 Material & Energy Bal	4
MATH 232 Calculus III	3
PHYS 251 Physics II	3
PHYS 251L Physics II Lab	1
CE/ME 200 Mechanics of Solids I	3
Total	**18**

JUNIOR YEAR Semester I	Credits
CH E 301 CH E Project	1
CH E 323 Fluid Mechanics	3
CH E 325 Junior Lab I	1
CH E 327 Chem. Engr. Thermo	3
CHEM 351 Physical Chemistry I	3
CHEM 351L Physical Chem I Lab	1
CH E 314 Engineering Economics	3
Liberal Studies	3
Total	**18**

Semester II	Credits
CH E 324 Heat Transfer	3
CH E 326 Junior Lab II	1
CH E 330 Mass Transfer & Separations	3
CHEM 352 Physical Chemistry II	3
CHEM 352L Physical Chem II Lab	1
ECE 221 Electric Circuits I	3
Liberal Studies	3
Total	**17**

SENIOR YEAR Semester I	Credits
CH E 401 CH E Project	2
CH E 425 Process Design I	3
CH E 437 Modeling & Control	3
CH E 441 Senior Lab I	1
CH E 443 Reactor Design	3
Program Option	3
Total	**15**

Semester II	Credits
CH E 402 CH E Project	2
CH E 426 Process Design II	3
CH E 442 Senior Lab II	1
CH E 444 Polymers	3
Program Option	3
Total	**12**

Total credits for graduation: 132.

COURSE REQUIREMENTS FOR A B.S. IN CIVIL ENGINEERING

FRESHMAN YEAR Semester I	Credits
CE 100 Intro to Civil & Envir Engr	0
CE 105 Intro to Civil & Envir. Desig	2
CE 111 Engr. Design Graphics	3
ENG 111 English Composition I	3
MATH 131 Calculus I	3
Liberal Studies	3
Liberal Studies	3
Orientation	0
Total	**17**

Semester II	Credits
CE 112 Computers Appl. in C&EE	3
ENG 112 English Composition II	3
MATH 132 Calculus II	3
PHYS 150 Physics I	3
PHYS 150L Physics I Lab	1
Liberal Studies	3
Total	**16**

SOPHOMORE YEAR Semester I	Credits
CE 115 Field Measurements	3
CE 200 Mechanics of Solids I	3
CHEM 115 General Chemistry	3
CHEM 115L General Chemistry Lab	1
MATH 231 Differential Equations	3
PHYS 251 Physics II	3
PHYS 251L Physics II Lab	1
Total	**17**

Semester II	Credits
CE 213 Mechanics of Solids II	3
ME 202 Dynamics	3
CE 299 Hydraulics	3
CE 299L Hydraulics Lab	1
MATH 232 Calculus III	3
Liberal Studies	3
Total	**16**

JUNIOR YEAR Semester I	Credits
CE 310 Anal/Design Steel Structures	3
CE 313 Hydrology	3
CE 322 Geotech Engr	3
CE 322L Geotech Lab	1
PHYS 252 Physics III	3
CE Major Elective	3
Total	**16**

Semester II	Credits
CE 311 Analys/Design Concrete Structures	3
CE 315 Junior Project	0
CE 317 Intro to Environ Engineering	3
CE 318 Highway Engineering	3
CE 340 Design of Foundations	3
MATH 308 Statistics	3
Liberal Studies	3
Total	**18**

SENIOR YEAR Semester I	Credits
CE 400 The Compleat Engineer	3
CE 417 Environmental Engr Lab	1
CE 431 Design Project I	2
CE Major Elective	3
ECE 221Electric Circuits I	3
MATH Elective[1]	3
Total	15

Semester II	Credits
CE 314 Engineering Economy	3
CE 432 Design Project II	2
CE Major Elective	3
ME 305/ChE 231 Thermodynamics	3
Program Options	3
Liberal Studies	3
Total	17

Total credits for graduation: 132.

[1] Must be a 300/400 level Math course.

COURSE REQUIREMENTS FOR A B.S. IN ELECTRICAL ENGINEERING

COMPUTER ENGINEERING CURRICULA

FRESHMAN YEAR Semester I	Credits
CHEM 115 General Chemistry	3
CHEM 115L Gen Chemistry Lab	1
ENG 111 English Comp I	3
MATH 131 Calculus I	3
ME 121 Solids Modeling	3
Liberal Studies	3
Orientation	0
Total	**16**

Semester II	Credits
CS 122 Found. of Computer Science & Lab	4
ENG 112 English Comp II	3
MATH 132 Calculus II	3
PHYS 150 Physics I	3
PHYS 150L Physics I Lab	1
Liberal Studies	3
Total	**17**

SOPHOMORE YEAR Semester I	Credits
ECE 221 Electric Circuits I	3
ECE 234 Data Structures/Program	3
ECE 244 Computer Programming Lab	1
ECE 250 Digital Design	3
MATH 231 Differential Equations	3
PHYS 251 Physics II	3
PHYS 250L Physics II Lab	1
Total	**17**

Semester II	Credits
CE 200 Mechanics of Solids I	3
ECE 201 Instrumentation	2
ECE 222 Electric Circuits II	3
ECE 236 Object Oriented Design	3
ECE 251 Microprocessors	3
MATH 232 Calculus III	3
Total	**17**

JUNIOR YEAR Semester I	Credits
ECE 331 Electronics I	3
ECE 341 Junior Lab I	1
ECE 350 Computer Systems	3
ECE 406 Electromagnetic Fields	4
MATH 309 Probability	3
PHYS 252 Physics III	3
Total	**17**

Semester II	Credits
CS 380 Operating Sysytems	3
ECE 314 Engineering Economy	3
ECE 332 Electronics II	3
ECE 335 Systems, Signals, Noise	3
ECE 342 Junior Lab II	1
ECE 450 Computer Networks	3
Liberal Studies	3
Total	**19**

SENIOR YEAR Semester I	Credits
ECE 409 ECE Project I	1
ECE Major Elective	3
ME 202 Dynamics	3
Liberal Studies	6
Program Option	3
Total	**16**

Semester II	Credits
ECE 400 The Compleat Engineer	3
ECE 410 ECE Project II	2
ECE Major Elective	3
MATH 405 Discrete Math	3
Liberal Studies	3
Total	**14**

Total Credits for graduation: 133.

All major electives and at least one program option must include design experience and therefore be a course offered by the School of Engineering.

Intern Program in France: Students with Junior Standing in the Electrical and Computer Engineering Department can complete 12 hours abroad. For information contact the ECE Department.

COURSE REQUIREMENTS FOR A B.S. IN ELECTRICAL ENGINEERING

ELECTRICAL ENGINEERING CURRICULA

FRESHMAN YEAR Semester I	Credits	Semester II	Credits
CHEM 115 Chemistry I and Lab	4	ENG 112 English Composition II	3
ECE 112 Computers in Engineering	3	MATH 132 Calculus II	3
ENG 111 English Composition I	3	ME 121 Solids Modeling	3
MATH 131 Calculus I	3	PHYS 150 Physics I	3
Liberal Studies	3	PHYS 150L Physics I Lab	1
Orientation	0	Liberal Studies	3
Total	**16**	**Total**	**16**

SOPHOMORE YEAR Semester I	Credits	Semester II	Credits
CE 200 Mechanics of Solids I	3	ECE 201 Instrumentation	2
ECE 221 Electric Circuits I	3	ECE 222 Electric Circuits II	3
ECE 250 Digital Design	3	ECE 251 Microprocessor Arch/Prog	3
MATH 231 Differential Equations	3	MATH 232 Calculus III	3
PHYS 251 Physics II	3	PHYS 252 Physics III	3
PHYS 251L Physics II Lab	1	ME 202 Dynamics	3
Total	**16**	**Total**	**17**

JUNIOR YEAR Semester I	Credits	Semester II	Credits
ECE 331 Electronics I	3	ECE 314 Engineering Economy	3
ECE 341 Junior Lab I	1	ECE 322 Linear Controls	3
ECE 406 Electromagnetic Field Theory	4	ECE 332 Electronics II	3
MATH 309 Probability	3	ECE 335 Systems, Signals, & Noise	3
PHYS 353 Solid State Physics	3	ECE 342 Junior Lab II	1
Liberal Studies	3	Liberal Studies	3
Total	**17**	**Total**	**16**

SENIOR YEAR Semester I	Credits	Semester II	Credits
ECE 401 Energy Conversion	3	ECE 400 The Compleat Engineer	3
ECE 403 Energy Conversion Lab	1	ECE 410 ECE Project II	2
ECE 409 ECE Project I	1	ECE Major Elective	3
ECE Major Elective	3	Liberal Studies	3
ME 305 Thermodynamics	3	Mathematics Elective	3
Liberal Studies	3	Program Option	3
Total	**14**	**Total**	**17**

Total credits for graduation: 129.

All major electives and at least one program option must include design experience and therefore be a course offered by the School of Engineering.

Intern Program in France: Students with Junior Standing in the Electrical and Computer Engineering Department can complete 12 hours abroad. For information contact the ECE Department.

COURSE REQUIREMENTS FOR B.S. IN ELECTRICAL ENGINEERING AND A B.S. IN COMPUTER SCIENCE

COMPUTER ENGINEERING CURRICULUM

FRESHMEN YEAR Semester I	Credits
ENG 111 English Composition I	3
CHEM 115 Gen Chemistry and Lab	4
MATH 131 Calculus I	3
ME 121 Solids Modeling	3
Social Science Elective	3
Orientation	0
Total	**16**

Semester II	Credits
ENG 112 English Composition II	3
CS 122 Found of CS I and Lab	4
MATH 132-Calculus II	3
PHYS 150 Physics I and Lab	4
Social Science Elective	3
Total	**17**

SOPHOMORE YEAR Semester I	Credits
CS 234 Found of CS II and Lab	4
MATH 231 Differential Equations	3
ECE 250 Digital Design	3
PHYS 251 Physics II and Lab	4
ECE 221 Electric Circuits I	3
Total	**17**

Semester II	Credits
CS 236 Object Oriented Design	3
ECE 251 Microprocessors	3
CE 200 Mechanics of Solids I	3
ECE 201 Instrumentation	2
ECE 222 Electric Circuits II	3
MATH 232 Calculus III	3
Total	**17**

JUNIOR YEAR Semester I	Credits
ECE 331 Electronics I	3
ECE 341 Junior Lab	1
ECE 350 Computer Systems	3
ECE 406 Electromagnetic Fields	4
MATH 309 Probability	3
PHYS 252 Physics III	3
Total	**17**

Semester II	Credits
ECE 314 Engineering Economy	3
ECE 341 Junior Lab II	1
ECE 332 Electronics II	3
ECE 335 Systems Signals & Noise	3
ECE 450 Computer Networks	3
CS 380 Operating Systems	3
Religious Studies Elective	3
Total	**19**

SENIOR YEAR Semester I	Credits
ECE 409 ECE Project I	1
ECE Major Elective	3
CS 392 Database Design	3
Religious Studies Elective	3
Math Elective	3
Literature Elective	3
ME 202 Dynamics	3
Total	**19**

Semester II	Credits
ECE 410 ECE Project II	2
CS 440 Algorithms	3
CS 460 Topics in Computer Science	3
ECE 400 The Compleat Engineer	3
Philosophy Elective	3
MATH 405 Discrete Math	3
Total	**17**

Total credits for graduation: 139

COURSE REQUIREMENTS FOR B.S. IN MECHANICAL ENGINEERING

FRESHMAN YEAR Semester I	Credits	Semester II	Credits
CHEM 115 General Chemistry	3	ME 112 Scientific Programming	3
CHEM 115L General Chem Lab	1	ENG 112 English Composition II	3
ENG 111 English Composition I	3	MATH 132 Calculus II	3
MATH 131 Calculus I	3	PHYS 150 Physics I	3
ME 121 Solids Modeling	3	PHYS 150L Physics I Lab	1
Liberal Studies	3	Liberal Studies	3
Orientation	0		
Total	**16**	**Total**	**16**

SOPHOMORE YEAR Semester I	Credits	Semester II	Credits
ME 200 Mechanics of Solids	3	ECE 221 Electric Circuits I	3
MATH 231 Differential Equations	3	MATH 232 Calculus III	3
ME 201 Manufacturing Processes	3	ME 202 Dynamics	3
PHYS 251 Physics II	3	ME 305 Thermodynamics I	3
PHYS 251L Physics II Lab	1	PHYS 252 Physics III	3
Liberal Studies	3	Liberal Studies	3
Total	**16**	**Total**	**18**

JUNIOR YEAR Semester I	Credits	Semester II	Credits
Liberal Studies	3	ME 302 Energy Systems Lab	2
MATH 329 Applied Analysis	3	ME 306 Heat Transfer	3
ME 301 Engr Instrumentation Lab	2	ME 318 Dynamics of Machines	3
ME 313 Fluid Mechanics	3	ME 422 Control Systems	3
ME 316 Engr Thermodynamics II	3	MATH Elective	3
ME 317 Kinematics	3	Liberal Studies	3
Total	**17**	**Total**	**17**

SENIOR YEAR Semester I	Credits	Semester II	Credits
ME 314 Engineering Economy	3	ME 400 The Compleat Engineer	3
ME 401 Mechanical Systems Lab	2	ME 408 ME Project II	3
ME 407 ME Project I	3	ME Major Elective	3
ME 420 Machine Design	3	Program Option	3
ME 421 Thermal Sys Analy & Dsgn	3	Program Option	3
ME Major Elective	3		
Total	**17**	**Total**	**15**

Total credits for graduation: 132.

BACHELOR OF SCIENCE IN ENGINEERING MANAGEMENT

Offered Jointly by the School of Business and the School of Engineering

GENERAL EDUCATION REQUIREMENTS ..... 47 hours

- English Composition (ENG 111 and 112) ..... 6 hours
- Literature (ENG 211, 212, 221, or 222) ..... 3 hours
- Mathematics (MATH 131, 132, and 231) ..... 9 hours
- Physics I and Lab (PHYS 150/150L) ..... 4 hours
- Physics II (or III) and Lab (PHYS 251/251L or 252/252L) ..... 4 hours
- Social Sciences and Math (HIST, SOC, PSYC, POLS) ..... 6 hours
- Religious Studies Electives ..... 6 hours
- Moral Values (PHIL 323, 220, or 234) ..... 3 hours
- Technology/ Business (ITM 153) ..... 3 hours

SCHOOL OF BUSINESS REQUIREMENTS ..... 42 hours

- Speech Communications (SPCH 125) ..... 3 hours
- Business Writing (ENG 371) ..... 3 hours
- Accounting (ACCT 260 & 270) ..... 6 hours
- Business Law (BLAW 301 & 302, or CE 420[1]) ..... 6 hours
- Economics (ECON 214 & 215) ..... 6 hours
- Management (MGMT 337, 339, & 498) ..... 9 hours
- Marketing and Logistics (MKTG 311 & 418) ..... 3 hours
- Statistics (STAT 221 & 222 or MATH 308[2]) ..... 6 hours

SCHOOL OF ENGINEERING REQUIREMENTS ..... 42 hours

- Circuits I (ECE 221) ..... 3 hours
- Engineering Economics (ECE/ME/CE/CHE 314[3]) ..... 3 hours
- Modeling (ME 121, CE 111) ..... 3 hours
- Mechanics (ME 200, CE 200) ..... 3 hours
- Dynamics (ME 202) ..... 3 hours
- Thermodynamics I (ME 305) ..... 3 hours
- Compleat Engineer (CE/ME/EE 400) ..... 3 hours
- Computer Science Fund. (ITM 251/CS 109, ECE/ME/CE 112) ..... 3 hours
- Computational Logic (ITM 252, CS 122) ..... 3 hours
- Design & Analysis (ITM 351) ..... 3 hours
- Information Systems (ITM 455) ..... 3 hours
- Decision Support (ITM 480) ..... 3 hours
- Engineering Elective[4] (CHE 391) ..... 3 hours
- Engineering Elective[5] (ME 201, ME 429) ..... 3 hours

TOTAL HOURS FOR GRADUATION ..... 131 hours

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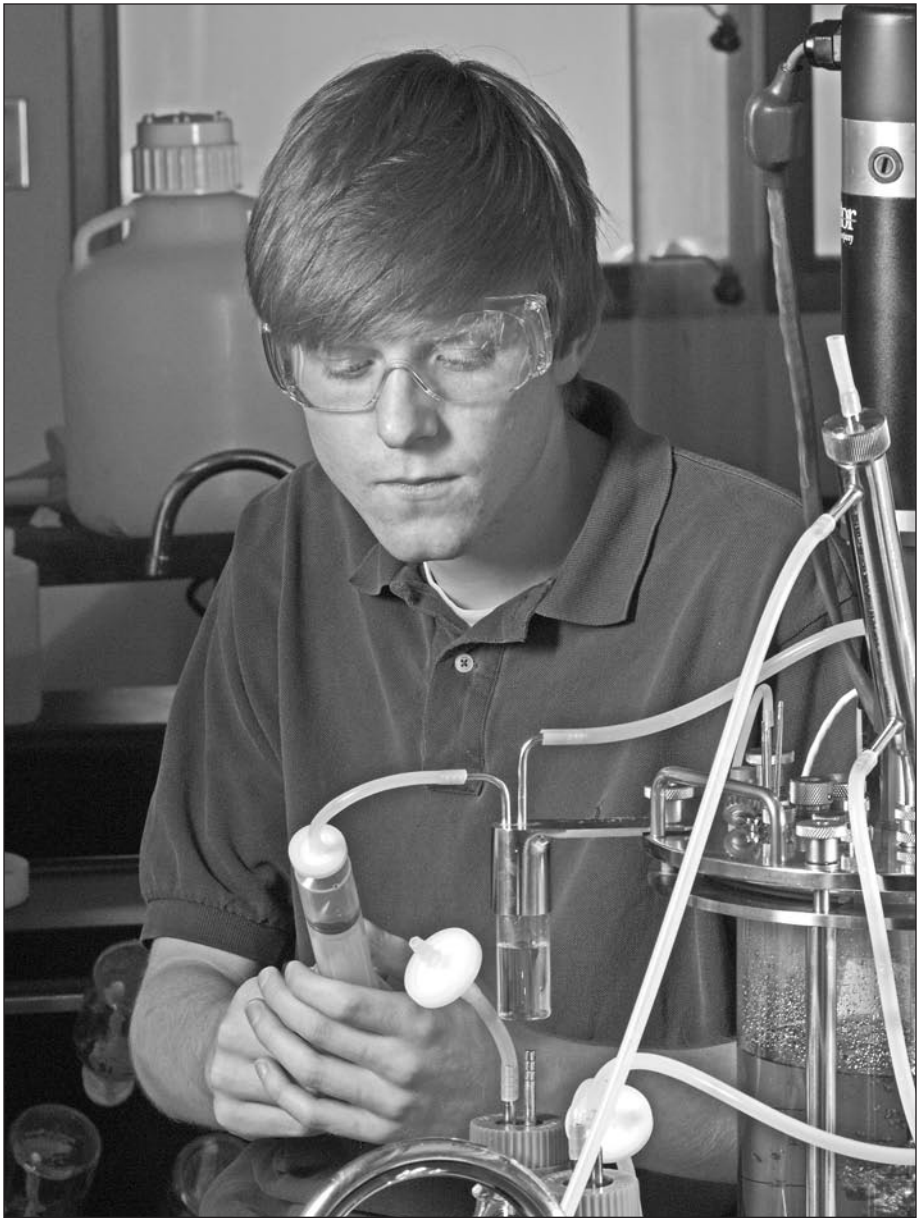
[1] BLAW 302 or CE 420 Contracts and Specifications

[2] STAT 222 or MATH 308 Statistics

[3] Engineering Economics (314) substitutes for Financial Management I (FIN 327) in the Business Core.

[4] An upper division Engineering elective (200, 300, 400); recommended CHE 391 Packaging

[5] An upper division Engineering elective (200, 300, 400); recommended ME 201 or ME 429



MINOR IN THE SCHOOL OF ENGINEERING

Minor in Computer Engineering: A minor in Computer Engineering is open to students not part of the Electrical Engineering majors, and they must complete seven courses in the computer engineering curriculum according to the following criteria:

1. at most 5 courses from the following: ECE 112, 201, 221, 233, 234, 250, and 251.
2. at least 2 courses from the following: ECE 350, 450-459, 470-479.