Engineering Science

at Benedictine University

Why study engineering at Benedictine?

Benedictine University and the Illinois Institute of Technology (IIT) have partnered for more than 20 years to offer students a unique opportunity to earn an engineering degree while attending a liberal arts university. This program offers students the chance to take advantage of the strengths of both schools while earning a Bachelor of Arts (B.A.) in Engineering Science from Benedictine and a Bachelor of Science (B.S) in Engineering from IIT. The liberal arts-educated graduate is better prepared to compete in an environment where communication skills are rapidly becoming as important as technical ability.

How does the program work?

You must have a minimum 3.0 GPA to be accepted into the Benedictine/IIT Engineering program. A minimum of 45 semester credit hours must be completed at IIT. Once you are accepted into the program, you will be enrolled at both schools simultaneously, and will be able to enjoy the benefits of student activities and the use of facilities at both institutions.

Your initial classes are taken exclusively at Benedictine, where you will complete a sequence of courses comprising the Engineering Core, plus elective courses in social science and humanities. By your fifth semester, you will take courses at both institutions. During the final four semesters of the program, a majority of the classes are conducted at IIT's campus in Chicago.

Your academic work will include courses that are essential to all branches of engineering, including calculus, physics, chemistry, mechanics, electronics, computer programming and engineering graphics. You will take liberal arts courses in written and oral communications, technical writing, social science and electives of your choice.

Fields of study

IIT will prepare you in the following fields of study:

- Aerospace Engineering
- Architectural Engineering
- Biomedical Engineering-Cell and Tissue Track
- Biomedical Engineering-Medical Imaging
- Biomedical Engineering-Neural Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Mechanical Engineering

This program develops engineers who can communicate technical ideas to society.

Recommended Program

BenU+IIT (Five-year Aerospace Engineering Program)
B.A. in Engineering Science at Benedictine/B.S. in Aerospace Engineering at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
WRIT 101	3 (BenU)
ENGR 120	2 (BenU)
PHYS 211 and 205	5 (BenU) (Note 3)
ENGR 100	1 (BenU)
	16

Second Semester

MATH 211	4 (BenU) (MATH 152)
WRIT 102	3 (BenU)
PHYS 212 and 206	5 (BenU) (Note 3)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
ENGR 110	3 (BenU)
	18

Third Semester

MATH 212	4 (BenU) (MATH 251)
CHEM 113 and 114	4 (BenU) (CHEM 124)
CMSC 180 and 185	4 (BenU) (MMAE 100)
SPCH 110	3 (BenU)
Religions/Theological (QRT) course	3 (BenU) (Note 1)
	18

Fourth Semester

MATH 260	4 (BenU) (MATH 252)
CHEM 123 and 124	4 (BenU)
CMSC 200	4 (BenU) (CS 105)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
ENGR 264	3 (BenU)
	18

Fifth Semester

PHYS 213	3 (BenU) (Note 3)
ENGR 220	3 (BenU) (MMAE 200)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
Philosophical (QPL) course	3 (BenU) (Note 1)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
	15

Sixth Semester

MS 201	3 (IIT)
MMAE 202	3 (IIT)
MMAE 313	3 (IIT)
MMAE 320	3 (IIT)
Human Dignity and the Common Good (IDS 301)	3 (BenU) (Note 1)
	15

Seventh Semester

MMAE 311	3 (IIT)
MMAE 312	3 (IIT)
MMAE 315	4 (IIT)
MMAE 350	3 (IIT)
Historical (QHT) course	3 (BenU) (Note 1)
	16

Eighth Semester

MMAE 304	3 (IIT)
MMAE 372	3 (IIT)
MMAE 443	3 (IIT)
MMAE 450	3 (IIT)
MMAE 452	3 (IIT)
	15

Ninth Semester

MMAE 410	3 (IIT)
MMAE 411	3 (IIT)
MMAE 412 or 414	3 (IIT) (Note 4)
IPRO 497	3 (IIT)
Life Scientific (QLS) course	3 (BenU) (Note 2)
	15

Tenth Semester

MMAE 413 or 416	3 (IIT) (Note 4)
MMAE 415	4 (IIT)
MMAE 417, 418 or 472	3 (IIT)
IPRO 497	3 (IIT)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
	16

Total	**162 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.
Note 2. Choose a Life Sciences course at Benedictine University from approved courses.
Note 3. PHYS 211, 212, 213, 205, 206 (BenU) = PHYS 123, 221, 224 (IIT).
Note 4. Student must choose either the MMAE 412 and 413 sequence or the MMAE 414 and 416 sequence.
Note 5. Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.
Note 6. A minimum of 45 semester credit hours must be completed at IIT.

Recommended Program

BenU+IIT (Five-year Mechanical Engineering Program)
B.A. in Engineering Science at Benedictine/B.S. in Mechanical Engineering at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
ENGR 120	2 (BenU)
PHYS 211 and 205	5 (BenU) (Note 3)
WRIT 101	3 (BenU)
ENGR 100	1 (BenU)
	16

Second Semester

MATH 211	4 (BenU) (MATH 152)
WRIT 102	3 (BenU)
PHYS 212 and 206	5 (BenU) (Note 3)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
ENGR 110	3 (BenU)
	18

Third Semester

MATH 212	4 (BenU) (MATH 251)
CHEM 113 and 114	4 (BenU) (CHEM 124)
CMSC 180 and 185	4 (BenU) (MMAE 100)
SPCH 110	3 (BenU)
Religions/Theological (QRT) course	3 (BenU (Note 1)
	18

Fourth Semester

MATH 260	4 (BenU) (MATH 252)
CHEM 123 and 124	4 (BenU)
CMSC 200	4 (BenU) (CS 105)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
ENGR 264	3 (BenU)
	18

Fifth Semester

MMAE 232	3 (IIT)
PHYS 213	3 (BenU) (Note 3)
ENGR 220	3 (BenU) (MMAE 200)
Philosophical (QPL) course	3 (BenU) (Note 1)
Historical (QHT) course	3 (BenU) (Note 1)
	15

Sixth Semester

MS 201	3 (IIT)
MMAE 202	3 (IIT)
MMAE 350	3 (IIT)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
	15

Seventh Semester

MMAE 302	3 (IIT)
MMAE 305	3 (IIT)
MMAE 313	3 (IIT)
MMAE 320	3 (IIT)
Human Dignity and the Common Good (IDS 301)	3 (BenU) (Note 1)
	15

Eighth Semester

MMAE 319	4 (IIT)
MMAE 321	3 (IIT)
MMAE 323	3 (IIT)
MMAE 332	3 (IIT)
	13

Ninth Semester

MMAE 419	4 (IIT)
MMAE 443	3 (IIT)
MMAE 445	3 (IIT)
MMAE 485	3 (IIT)
IPRO 497	3 (IIT)
	16

Tenth Semester

MMAE 432	3 (IIT)
MMAE 433	3 (IIT)
IPRO 497	3 (IIT)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
Life Scientific (QLS) course	3 (BenU) (Note 2)
	15
Total	**159 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.

Note 2. Choose a Life Sciences course at Benedictine University from approved courses.

Note 3. PHYS 211, 212, 213, 205, 206 (BenU) = PHYS 123, 221 (IIT).

Note 4. Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.

Note 5. A minimum of 45 semester credit hours must be completed at IIT.

Recommended Program

BenU+IIT (Five-year Electrical Engineering Program)
B.A. in Engineering Science at Benedictine/B.S. in Electrical Engineering at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
WRIT 101	3 (BenU)
PHYS 211 and 205	5 (BenU) (Note 3)
ENGR 100	1 (BenU)
ENGR 120	2 (BenU)
	16

Third Semester

MATH 212	4 (BenU) (MATH 251)
CHEM 113 and 114	4 (BenU) (CHEM 122)
CMSC 180 and 185	4 (BenU) (ECE 100)
SPCH 110	3 (BenU)
Religions/Theological (QRT) course	3 (BenU) (Note 1)
	18

Fifth Semester (Note 5)

ECE 211	4 (IIT)
ECE 218	3 (IIT)
CMSC 220	4 (BenU) (ECE 242)
ENGR 220	3 (BenU) (MMAE 200)
PHYS 213	3 (BenU) (Note 3)
	17

Seventh Semester (Note 5)

MATH 333	3 (IIT)
ECE 307	4 (IIT)
ECE 311	4 (IIT)
IPRO 497	3 (IIT) (Note 4)
Historical (QHT) course	3 (BenU) (Note 1)
	17

Ninth Semester (Note 5)

Prof ECE elective	4 (IIT) (Note 5)
Prof ECE elective	3 (IIT) (Note 5)
IPRO 497	3 (IIT) (Note 4)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
	13

Second Semester

MATH 211	4 (BenU) (MATH 152)
WRIT 102	3 (BenU)
PHYS 212 and 206	5 (BenU) (Note 3)
ENGR 110	3 (BenU)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
	18

Fourth Semester

MATH 260	4 (BenU) (MATH 252)
CHEM 123 and 124	4 (BenU) (ECE science elective)
CMSC 200	4 (BenU) (CS 115 and 116)
ENGR 264	3 (BenU)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
	18

Sixth Semester (Note 5)

ECE 213	4 (IIT)
Human Dignity and the Common Good (IDS 301)	3 (BenU) (Note 1)
MATH 371	3 (BenU) (MATH 474)
Philosophical (QPL) course	3 (BenU) (Note 1)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
	16

Eighth Semester (Note 5)

ECE 308	3 (IIT)
ECE 312	4 (IIT)
ECE 319	4 (IIT)
Life Scientific (QLS) course	3 (BenU) (Note 1)
	14

Tenth Semester (Note 5)

Prof ECE elective	4 (IIT) (Note 5)
Prof ECE elective	3 (IIT) (Note 5)
Prof ECE elective	3 (IIT) (Note 5)
Technical elective	3 (BenU)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
	16
Total	**163 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.

Note 2. Choose a Life Sciences course at Benedictine University from approved courses.

Note 3. PHYS C211, C205, C212, C206, 213 (BenU) = PHYS 123, 221, 224 (IIT).

Note 4. Interprofessional projects may be taken at any time during the third, fourth or fifth years (course scheduling must be adjusted accordingly with advisor approval). IPROs are subject to the approval of your academic advisor. At lease one IPRO should have a significant technical content (at least 75 percent) an be viewed as a technical IPRO with the same definition as a technical elective.

Note 5. Professional ECE electives may be chosen from any of the 400-level IIT ECE courses identified with (P) in the course descriptions. Courses at the 500 level may be taken with the written consent of the instructor, faculty advisor and the ECE department chair. At least two of the electives must contain laboratories. See the current IIT bulletin for more information. A maximum of 3 semester credit hours of ECE 491undergraduate research or specialized programs ECE 497 may be used as a professional elective with advisor approval.

Note 6. Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.

Note 7. A minimum of 45 semester credit hours must be completed at IIT.

Recommended Program

BenU+IIT (Five-year Civil Engineering Program)
B.A. in Engineering Science at Benedictine/B.S. in Civil Engineering at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
WRIT 101	3 (BenU)
PHYS 211 and 205	5 (BenU) (Note 3)
ENGR 100	1 (BenU)
ENGR 120	2 (BenU) (CAE 101)
	16

Third Semester

MATH 212	4 (BenU) (MATH 251)
CHEM 113 and 114	4 (BenU) (CHEM 124)
CMSC180 and 185	4 (BenU) (CAE 100)
SPCH 110	3 (BenU)
Religions/Theological (QRT) course	3 (BenU) (Note 1)
	18

Fifth Semester

CAE 105	3 (IIT)
CAE 221	3 (IIT)
PHYS 213	3 (BenU) (Note 3)
ENGR 220	3 (BenU) (MMAE 200)
Historical (QHT) course	3 (BenU) (Note 1)
	15

Seventh Semester

CAE 301	3 (IIT)
CAE 303	3 (IIT)
CAE 304	3 (IIT)
CAE 312	3 (IIT)
CAE 315	3 (IIT)
Life Scientific (QLS) course	3 (BenU) (Note 2)
	18

Ninth Semester

CAE 419	3 (IIT)
CAE 431	3 (IIT)
CAE 457	3 (IIT)
CAE 470	3 (IIT)
CAE elective (400+ level)	3 (IIT)
	15

Second Semester

MATH 211	4 (BenU) (MATH 152)
WRIT 102	3 (BenU)
PHYS 212 and 206	5 (BenU) (Note 3)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
ENGR 110	3 (BenU)
	18

Fourth Semester

MATH 260	4 (BenU) (MATH 252)
CHEM 123 and 124	4 (BenU)
CMSC 200	4 (BenU) (CS 105)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
ENGR 264	3 (BenU) (CAE 110 and 111)
	18

Sixth Semester

MMAE 202	3 (IIT)
MMAE 305	3 (IIT)
Philosophical (QPL) course	3 (BenU) (Note 1)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
Human Dignity and the Common Good (IDS 301)	3 (BenU) (Note 1)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
	18

Eighth Semester

CAE 302	3 (IIT)
CAE 307	3 (IIT)
CAE 310	3 (IIT)
CAE 323	3 (IIT)
IPRO 497	3 (IIT)
	15

Tenth Semester

CAE elective (400+ level)	3 (IIT)
CAE 432	3 (IIT)
IPRO Capstone Design	3 (IIT)
Technical elective	3 (IIT) (Note 4)
Technical elective	3 (IIT) (Note 4)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
	18
Total	**169 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.
Note 2. Choose a Life Sciences course at Benedictine University from approved courses.
Note 3. PHYS 211, 212, 213, 205, 206 (BenU) = PHYS 123, 211, 224 (IIT).
Note 4. Technical elective must be a 300 level or higher Science or Engineering elective.
Note 5. Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.
Note 6. A minimum of 45 semester credit hours must be completed at IIT.

Recommended Program

BenU+IIT (Five-year Architectural Engineering Program) B.A. in Engineering Science at Benedictine/B.S. in Architectural Engineering at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
WRIT 101	3 (BenU)
PHYS 211 and 205	5 (BenU) (Note 3)
ENGR 100	1 (BenU)
ENGR 120	2 (BenU) (CAE 101)
	16

Third Semester

MATH 212	4 (BenU) (MATH 251)
CHEM 113 and 114	4 (BenU) (CHEM 124)
CMSC 180 and 185	4 (BenU) (CAE 100)
SPCH 110	3 (BenU)
Religions/Theological (QRT) course	3 (BenU) (Note 1)
	18

Fifth Semester

CAE 105	3 (IIT)
CAE 208	3 (IIT)
AAH 119	3 (IIT)
PHYS 213	3 (BenU) (Note 3)
ENGR 220	3 (BenU) (MMAE 200)
Historical (QHT) course	3 (BenU) (Note 1)
	18

Seventh Semester

CAE 303	3 (IIT)
CAE 304	3 (IIT)
CAE 312	3 (IIT)
CAE 315	3 (IIT)
CAE 331	3 (IIT)
Life Scientific (QLS) course	3 (BenU) (Note 2)
	18

Ninth Semester

CAE 464	3 (IIT)
CAE 468	2 (IIT)
CAE 470	3 (IIT)
Technical elective	3 (IIT) (Note 4)
Technical elective	3 (IIT) (Note 4)
	14

Second Semester

MATH 211	4 (BenU) (MATH 152)
WRIT 102	3 (BenU)
PHYS 212 and 206	5 (BenU) (Note 3)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
ENGR 110	3 (BenU)
	18

Fourth Semester

MATH 260	4 (BenU) (MATH 252)
CHEM 123 and 124	4 (BenU)
CMSC 200	4 (BenU) (CS 105)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
ENGR 264	3 (BenU)
	18

Sixth Semester

MMAE 202	3 (IIT)
CAE 209	4 (IIT)
Human Dignity and the Common Good (IDS 301)	3 (BenU) (Note 1)
Philosophical (QPL) course	3 (BenU) (Note 1)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
	16

Eighth Semester

CAE 307	3 (IIT)
CAE 323	3 (IIT)
CAE 334	3 (IIT)
CAE 461	3 (IIT)
IPRO 497	3 (IIT)
	15

Tenth Semester

CAE 469	2 (IIT)
CAE 471	3 (IIT)
Technical elective	3 (IIT) (Note 4)
IPRO Capstone Design Course	3 (IIT)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
	17

Total	**168 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.
Note 2. Choose a Life Sciences course at Benedictine University from approved courses.
Note 3. PHYS 211, 212, 213, 205, 206 (BenU) = PHYS 123, 211, 224 (IIT).
Note 4. Technical elective must be a 300 or higher level Science or Engineering elective.
Note 5. Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.
Note 6. A minimum of 45 semester credit hours must be completed at IIT.

Recommended Program

BenU+IIT (Five-year Chemical Engineering Program) B.A. in Engineering Science at Benedictine/B.S. in Chemical Engineering at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
WRIT 101	3 (BenU)
ENGR 120	2 (BenU)
CHEM 113 and 114	4 (BenU)
ENGR 100	1 (BenU)
SPCH 110	3 BenU)
	18

Third Semester

MATH 212	4 (BenU) (MATH 251)
PHYS 211 and 205	5 (BenU) (Note 3)
CMSC 180 and 185	4 (BenU) (CHE 100)
CHEM 242 and 243	4 (BenU) (CHEM 237)
	17

Fifth Semester

CHE 202	3 (IIT)
CHEM 313	3 (BenU) (CHEM 343)
PHYS 213	3 (BenU) (Note 3)
ENGR 220	3 (BenU) (CHE 101)
Historical (QHT) course	3 (BenU) (Note 1)
Philosophical (QPL) course	3 (BenU) (Note 1)
	18

Seventh Semester

CHE 302	3 (IIT)
CHE 311	3 (IIT)
CHE 351	3 (IIT)
ECE 215 or 218	3 (IIT)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
	18

Ninth Semester

CHE 418	2 (IIT)
CHE 423	3 (IIT)
CHE 435	3 (IIT)
CHE 494	3 (IIT)
Religions/Theological (QRT) course	3 (BenU) (Note 1)
	14

Second Semester

MATH 211	4 (BenU) (MATH 152)
CHEM 123 and 124	4 (BenU) (CHEM 125)
WRIT 102	3 (BenU)
ENGR 110	3 (BenU)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
	17

Fourth Semester

MATH 260	4 (BenU) (MATH 252)
PHYS 212 and 206	5 (BenU) (Note 3)
CMSC 200	4 (BenU) (CS 105)
CHEM 247 (BenU)	3 (BenU) (CHEM 239)
	16

Sixth Semester

CHE 301	3 (IIT)
CHE/IPRO 296	1 (IIT)
ENGR 264	3 (BenU) (Technical elective)
CHEM 315 and 316	4 (BenU) (CHEM 344)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
	17

Eighth Semester

CHE 317	2 (IIT)
CHE 433	3 (IIT)
IPRO 497	3 (IIT)
CHE 451	3 (IIT)
Technical elective	3 (IIT)
Human Dignity and the Common Good (IDS 301)	3 (BenU) (Note 1)
	17

Tenth Semester

CHE 406	3 (IIT)
CHE 439	3 (IIT)
IPRO 496	2 (IIT)
Technical elective	3 (IIT)
Life Scientific (QLS) course	3 (BenU) (Note 2)
	14

Total	**166 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.
Note 2. Choose a Life Sciences course at Benedictine University from approved courses.
Note 3. PHYS 211, 212, 213, 205, 206 (BenU) = PHYS 123, 221 (IIT).
Note 4. Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.
Note 5. A minimum of 45 semester credit hours must be completed at IIT.

Recommended Program

BenU+IIT (Five-year Computer Engineering Program) B.A. in Engineering Science at Benedictine/B.S. in Computer Engineering at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
SPCH 110	3 (BenU)
CHEM 113 and 114	4 (BenU) (CHEM 122)
WRIT 101	3 (BenU)
ENGR 120	2 (BenU)
ENGR 100	1 (BenU)
	18

Second Semester

MATH 211	4 (BenU) (MATH 152)
WRIT 102	3 (BenU)
CHEM 123 and 124	4 (BenU) (ECE Science elective)
ENGR 110	3 (BenU)
Philosophical (QPL) course	3 (BenU) (Note 1)
	17

Third Semester

MATH 212	4 (BenU) (MATH 251)
PHYS 211 and 205	5 (BenU) (Note 3)
CMSC 180 and 185	4 (BenU) (ECE 100)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
	16

Fourth Semester

MATH 240	4 (BenU) (CS 330)
MATH 260	4 (BenU) (MATH 252)
PHYS 212 and 206	5 (BenU) (Note 3)
CMSC 200	4 (BenU) (CS 115 and 116)
	17

Fifth Semester

ECE 211	4 (IIT)
ECE 218	3 (IIT)
ENGR 220	3 (BenU) (MMAE 200)
CMSC 205	3 (BenU) (CS 331)
PHYS 213	3 (BenU) (Note 3)
	16

Sixth Semester

ECE 213	4 (IIT)
ENGR 264	3 (BenU)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
Human Dignity and the Common Good (IDS 301)	3 (BenU) (Note 1)
Religions/Theological (QRT) course	3 (BenU) (Note 1)
	16

Seventh Semester

ECE 311	4 (IIT)
CS 351	3 (IIT)
MATH 333 or 350	3 (IIT)
CMSC 220	3 (BenU) (ECE 242)
Historical (QHT) course	3 (BenU) (Note 1)
	16

Eighth Semester

IPRO 497	3 (IIT) (Note 4)
MATH 371	3 (BenU) (MATH 474)
CS 450	3 (IIT)
ECE 307, 308, 312, or 319	3/4 (IIT) (Note 7)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
	15/16

Ninth Semester

ECE 441	4 (IIT)
CS 487	3 (IIT)
ECE 485	3 (IIT) (Note 5)
Professional ECE elective	3/4 (IIT) (Note 6)
Life Scientific (QLS) course	3 (BenU) (Note 2)
	16/17

Tenth Semester

Professional ECE elective	3/4 (IIT) (Note 6)
ECE 429 or 446	3/4 (IIT)
IPRO 497	3 (IIT) (Note 4)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
	15/17

Total	**162/166 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.
Note 2. Choose a Life Sciences course at Benedictine University from approved courses.
Note 3. PHYS 211, 212, 205, 206, 213 (BenU) = PHYS 123, 221, 224 (IIT).
Note 4. Interprofessional projects may be taken at any time during the third, fourth or fifth years (course scheduling must be adjusted accordingly with advisor approval).
Note 5. CS 470 may be substituted with advisor approval.
Note 6. Professional electives may be chosen from any of the 400-level IIT ECE courses identified with a (P) in the course description and any 400-level IIT computer science courses except for CS 485. A maximum of 3 semester credit hours of ECE 491 - Undergraduate Research or ECE 497 - Special Programs may be used as professional electives with advisor approval.
Note 7. If a 4 semester credit hour course is completed, 19 semester credit hours will be required for the term. The student must receive permission from their academic dean to complete 19 semester credit hours in the term.
Note 8. Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.
Note 9. A minimum of 45 semester credit hours must be completed at IIT.

Recommended Program

BenU+IIT (Five-year Biomedical Engineering – Cell and Tissue Track)
B.A. in Engineering Science at Benedictine/
B.S. in Biomedical Engineering – Cell and Tissue Track at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
WRIT 101	3 (BenU)
PHYS 211 and 205	5 (BenU) (Note 3)
SPCH 110	3 (BenU)
ENGR 100	1 (BenU)
	17

Third Semester

MATH 212	4 (BenU) (MATH 251)
CHEM 113 and 114	4 (BenU) (CHEM 124)
CMSC 180 and 185	4 (BenU) (BME 100)
Religions/Theological (QRT) course	3 (BenU) (Note 1)
Philosophical (QPL) course	3 (BenU) (Note 1)
	18

Fifth Semester

ECE 215	3 (IIT)
CHEM 242 and 243	4 (BenU) (CHEM 237)
ENGR 220	3 (BenU) (MMAE 200)
PHYS 213	3 (BenU) (Note 3)
Human Dignity and the Common Good (IDS 301)	3 (BenU) (Note 1)
ENGR 120	2 (BenU)
	18

Seventh Semester

BME 315	3 (IIT)
BME 330	3 (IIT)
CHE 202	3 (IIT)
ENVE 426	3 (IIT
IPRO 497	3 (IIT
	15

Ninth Semester

BIOL 430	3 (IIT) (Note 2)
BME 405	2 (IIT)
BME 418	3 (IIT)
BME 419	2 (IIT)
BME 482	3 (IIT)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
	16

Second Semester

MATH 211	4 (BenU) (MATH 152)
PHYS 212 and 206	5 (BenU) (Note 3)
WRIT 102	3 (BenU)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
ENGR 110	3 (BenU)
	18

Fourth Semester

MATH 260	4 (BenU) (MATH 252)
CMSC 200	4 (BenU) (CS115)
CHEM 123 and 124	4 (BenU) (CHEM 125)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
ENGR 264	3 (BenU)
	18

Sixth Semester

BIOL 115	3 (IIT) (Note 2)
BIOL 117	1 (IIT) (Note 2)
BME 200	1 (IIT)
MS 201	3 (IIT)
CHEM 247	3 (BenU) (CHEM 239)
Historical (QHT) course	3 (BenU) (Note 1)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
	17

Eighth Semester

BME 301	3 (IIT)
BME 310	3 (IIT)
BME 320	1 (IIT)
BME 335	3 (IIT)
BME elective	3 (IIT) (Note 4)
	13

Tenth Semester

BME 420	3 (IIT)
BME 490	1 (IIT)
IPRO 497	3 (IIT)
BME elective	3 (IIT) (Note 4)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
	13
Total	**163 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.
Note 2. BIOL 115, 117 and 430 will substitute for the Life Sciences component of the Benedictine University Natural Science requirement.
Note 3. PHYS 211, 212, 213, 205, 206 (BenU) = PHYS 123, 221 (IIT).
Note 4. BME elective must be a 300 level or higher engineering course in BME, CAE, CHE, ECE, ENVE or MMAE.
Note 5. Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.
Note 6. A minimum of 45 semester credit hours must be completed at IIT.

Recommended Program

BenU+IIT (Five-year Biomedical Engineering – Medical Imaging)
B.A. in Engineering Science at Benedictine/
B.S. in Biomedical Engineering – Medical Imaging at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
WRIT 101	3 (BenU)
PHYS 211 and 205	5 (BenU) (Note 3)
SPCH 110	3 (BenU)
ENGR 100	1 (BenU)
	17

Second Semester

MATH 211	4 (BenU) (MATH 152)
PHYS 212 and 206	5 (BenU) (Note 3)
WRIT 102	3 (BenU)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
ENGR 110	3 (BenU)
	18

Third Semester

MATH 212	4 (BenU) (MATH 251)
CHEM 113 and 114	4 (BenU) (CHEM 124)
CMSC 180 and 185	4 (BenU) (BME 100)
ENGR 120	2 (BenU)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
	17

Fourth Semester

BIOL 115	3 (IIT) (Note 2)
BIOL 117	1 (IIT) (Note 2)
CMSC 200	4 (BenU) (CS 115 and 116)
MATH 260	4 (BenU) (MATH 252)
CHEM 123 and 124	4 (BenU) (CHEM 125)
	16

Fifth Semester

ECE 215	3 (IIT)
MATH 333	3 (IIT)
ENGR 220	3 (BenU) (MMAE 200)
PHYS 213	3 (BenU) (Note 3)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
Philosophical (QPL) course	3 (BenU) (Note 1)
	18

Sixth Semester

BME 200	1 (IIT)
ECE 216	3 (IIT)
ENGR 264	3 (BenU)
Human Dignity and the Common Good (IDS 301)	3 (BenU)
Historical (QHT) course	3 (BenU) (Note 1)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
	16

Seventh Semester

BME 309	3 (IIT)
BME 315	2 (IIT)
BME 330	3 (IIT)
ENVE 426	3 (IIT)
IPRO 497	3 (IIT)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
	17

Eighth Semester

BME 310	3 (IIT)
BME 320	1 (IIT)
BME 443	3 (IIT)
BME 445	3 (IIT)
BME elective	3 (IIT) (Note 4)
	13

Ninth Semester

BIOL 430	3 (IIT) (Note 2)
BME 405	2 (IIT)
BME 419	2 (IIT)
IPRO 497	3 (IIT)
ECE 437	3 (IIT)
BME elective	3 (IIT) (Note 4)
	16

Tenth Semester

BME 420	3 (IIT)
BME 438	3 (IIT)
BME 490	1 (IIT)
ECE 481	3 (IIT)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
	13
Total	**161 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.
Note 2. BIOL 115, 117 and 430 will substitute for the Life Sciences component of the Benedictine University Natural Science requirement.
Note 3. PHYS 211, 212, 213, 205, 206 (BenU) = PHYS 123, 211, 224 (IIT).
Note 4. BME elective must be a 300 level or higher engineering course in BME, CAE, CHE, ECE, ENVE or MMAE.
Note 5. Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.
Note 6. A minimum of 45 semester credit hours must be completed at IIT.

Recommended Program

BenU+IIT (Five-year Biomedical Engineering – Neural Engineering) B.A. in Engineering Science at Benedictine/ B.S. in Biomedical Engineering – Neural Engineering at IIT

First Semester

MATH 210 and 207	5 (BenU) (MATH 151)
WRIT 101	3 (BenU)
CHEM 113 and 114	4 (BenU) (CHEM 124)
SPCH 110	3 (BenU)
ENGR 120	2 (BenU)
ENGR 100	1 (BenU)
	18

Second Semester

MATH 211	4 (BenU) (MATH 152)
WRIT 102	3 (BenU)
CHEM 123 and 124	4 (BenU)
Social Scientific I: Individuals, Organizations and Societies (QIO)	3 (BenU) (Note 1)
ENGR 110	3 (BenU)
	17

Third Semester

MATH 212	4 (BenU) (MATH 251)
PHYS 211 and 205	5 (BenU) (Note 3)
CMSC 180 and 185	4 (BenU) (BME 100)
Catholic and Benedictine Intellectual Traditions (IDS 201)	3 (BenU) (Note 1)
	16

Fourth Semester

BIOL 115	3 (IIT) (Note 2)
BIOL 117	1 (IIT) (Note 2)
CS 115	2 (IIT) (Note 4)
MATH 260	4 (BenU) (MATH 252)
PHYS 212 and 206	5 (BenU) (Note 3)
Religions/Theological (QRT) course	3 (BenU) (Note 1)
	18

Fifth Semester

ECE 211	4 (IIT)
ECE 218	3 (IIT)
MATH 333 or	4 (IIT) OR
CHEM 242 and 243	4 (BenU) (CHEM 237)
ENGR 220	3 (BenU)
PHYS 213	3 (BenU) (Note 3)
	17

Sixth Semester

BME 200	1 (IIT)
ECE 213	4 (IIT)
CHEM 247 or	3 (BenU) (CHEM 239) OR
IIT Technical elective	3 (IIT)
ENGR 264	3 (BenU)
Human Dignity and the Common Good (IDS 301)	3 (BenU) (Note 1)
Historical (QHT) course	3 (BenU) (Note 1)
	17

Seventh Semester

BME 309	3 (IIT)
BME 315	2 (IIT)
BME 330	3 (IIT)
ENVE 426	3 (IIT)
IPRO 497	3 (IIT)
Social Scientific II: Political, Global and Economic Systems (QPE)	3 (BenU) (Note 1)
	17

Eighth Semester

BME 310	3 (IIT)
BME 320	1 (IIT)
BME 443	3 (IIT)
BME 445	3 (IIT)
BME elective	3 (IIT) (Note 5)
Philosophical (QPL) course	3 (BenU) (Note 1)
	16

Ninth Semester

BIOL 430	3 (IIT) (Note 2)
BME 405	2 (IIT)
BME 419	2 (IIT)
IPRO 497	3 (IIT)
BME elective	3 (IIT) (Note 5)
Literary and Rhetorical (QLR) course	3 (BenU) (Note 1)
	16

Tenth Semester

BME 420	3 (IIT)
BME 438	3 (IIT)
BME 490	1 (IIT)
BME Elective	3 (IIT) (Note 5)
Artistic and Creative (QCA) course	3 (BenU) (Note 1)
	13

Total	**165 minimum**

Note 1. Choose Humanities and Social Sciences electives from approved courses.
Note 2. BIOL 115, 117 and 430 will substitute for the Life Sciences component of the Benedictine University Natural Science requirement.
Note 3. PHYS 211, 212, 213, 205, 206 (BenU) = PHYS 123, 221 (IIT).
Note 4. If you complete CMSC 200, please consult your academic advisor at Benedictine University regarding the completion of approved Humanities in Social Sciences courses in a summer term to reduce your academic load in the fourth semester of the joint program.
Note 5. BME elective must be a 300 level or higher engineering course in BME, CAE, CHE, ECE, ENVE or MMAE.
Note 6 Consult your academic advisor at Benedictine University regarding the completion of approved courses in a summer term to reduce your academic load in the fall or spring term.
Note 7. A minimum of 45 semester credit hours must be completed at IIT.