Supplemental Information - Curriculum proposals
FS Academic Affairs Committee Review
April 17, 2018 Meeting

Arts and Sciences
Biochemistry and Molecular Biophysics

Changes to the Biochemistry (B.A.)

Rationale: This is a non-expedited curriculum change. Biochemistry and Molecular Biophysics (BMB) proposes to modify the Biochemistry BA, Medical Biochemistry track, degree plan that we currently offer, in two ways. First, we will increase the value of a required course BIOCH522 General Biochemistry Laboratory, from 2 to 3 credits (please see accompanying Appendix C). Secondly, we will reduce the number of required elective credits from 20 to 18, in order to comply with the KBOR mandate of 120 total scheduled credit hours for bachelor's degree completion. The BMB faculty approved these changes on Dec. 12, 2017.

Impact (i.e. if this impacts another unit): The proposed reduction in upper division elective credits from 20 to 18 may lead to small reductions in the enrollment of upper division classes in other departments/divisions/colleges.

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12942&returnto=6989

FROM:	TO:
Biochemistry (B.A.) Return to: Biochemistry and Molecular Biophysics Biochemistry seeks to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences. **Bachelor's degree requirements** **General requirements** A total of ~~121~~ credit hours are required for graduation. The BA program is obtained by following the curriculum of the College of Arts and Sciences.	**Biochemistry (B.A.)** Return to: Biochemistry and Molecular Biophysics Biochemistry seeks to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences. **Bachelor's degree requirements** **General requirements** A total of 120 credit hours are required for graduation. The BA program is obtained by following the curriculum of the College of Arts and Sciences.

To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

Biochemistry Track

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** ~~2~~
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 450 - Modern Genetics **Credits:** 4
- BIOL 455 - General Microbiology **Credits:** 4
- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2

- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- STAT 703 - Introduction to Statistical

To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

Biochemistry Track

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 450 - Modern Genetics **Credits:** 4
- BIOL 455 - General Microbiology **Credits:** 4
- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3
- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 371 - Chemical Analysis **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- MATH 221 - Analytic Geometry and Calculus II **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- STAT 703 - Introduction to Statistical

Methods for the Sciences **Credits:** 3

- *Any upper division elective credits in any College **Credits:** 20

Medical Biochemistry Track

A total of ~~121~~ credit hours are required for graduation. The BA program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences.

To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** ~~2~~
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- # BIOCH 755 - Biochemistry I **Credits:** 3
- # BIOCH 799 - Problems in Biochemistry **Credits:** 1-18
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 450 - Modern Genetics **Credits:** 4
- BIOL 455 - General Microbiology **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 670 - Immunology **Credits:** 4
- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3

Methods for the Sciences **Credits:** 3

- *Any upper division elective credits in any College **Credits:** 20

Medical Biochemistry Track

A total of 120 credit hours are required for graduation. The BA program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences.

To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State.

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** 3
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- # BIOCH 755 - Biochemistry I **Credits:** 3
- # BIOCH 799 - Problems in Biochemistry **Credits:** 1-18
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 450 - Modern Genetics **Credits:** 4
- BIOL 455 - General Microbiology **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 670 - Immunology **Credits:** 4
- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3

- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 371 - Chemical Analysis **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- STAT 340 - Biometrics I **Credits:** 3
- # STAT 341 - Biometrics II **Credits:** 3
- *Any upper division (500 level or above) elective credits in any College **Credits:** ~~20~~

The following classes are also acceptable as upper-division electives:

- BIOL 410 - Biology of the Cancer Cell **Credits:** 2
- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4
- & PHILO 365 - Medical Ethics **Credits:** 3
- PSYCH 470 - Psychobiology **Credits:** 3

Notes

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*The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BS degree.

- Arts and Sciences requirements **Credits:** 32
- Level 4 Modern Language **Credits:** 4

& This class cannot both fill the Philosophy

- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 371 - Chemical Analysis **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- STAT 340 - Biometrics I **Credits:** 3
- # STAT 341 - Biometrics II **Credits:** 3
- *Any upper division (500 level or above) elective credits in any College **Credits:** **18**

The following classes are also acceptable as upper-division electives:

- BIOL 341 – Human Body **Credits: 3**
- BIOL 410 - Biology of the Cancer Cell **Credits:** 2
- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4
- & PHILO 365 - Medical Ethics **Credits:** 3
- PSYCH 470 - Psychobiology **Credits:** 3

Notes

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*The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BS degree.

- Arts and Sciences requirements **Credits:** 32
- Level 4 Modern Language **Credits:** 4

& This class cannot both fill the Philosophy

requirement of the College of Arts & Sciences, and also serve as an elective in the Medical Biochemistry BS degree plan. # The Medical Biochemistry BA plan requires one of the following three classes: • BIOCH 755 - Biochemistry I or • BIOCH 799 - Biochemistry Research or • STAT 341 - Biometrics II **Total credit hours required for graduation: (~~121~~)** --- ⇦Return to: Biochemistry and Molecular Biophysics	requirement of the College of Arts & Sciences, and also serve as an elective in the Medical Biochemistry BS degree plan. # The Medical Biochemistry BA plan requires one of the following three classes: • BIOCH 755 - Biochemistry I or • BIOCH 799 - Biochemistry Research or • STAT 341 - Biometrics II **Total credit hours required for graduation: (120)** --- ⇦Return to: Biochemistry and Molecular Biophysics

Changes to Biochemistry (B.S.)

Rationale: This is a non-expedited curriculum change. Biochemistry and Molecular Biophysics (BMB) proposes to modify the Molecular Biophysics track, BS degree plan that we currently offer, in three ways. First, we will add another required course, BIOCH522 General Biochemistry Laboratory (3 credits). This laboratory trains students in basic biochemical and molecular biological skills, that are a necessary part of all BMB degree programs. This additional training will benefit the academic and career development of students in the Molecular Biophysics track BS degree plan. Second, we will delete the class PHYS325 Physics III, Relativity, Quantum Physics (4 credits). Third, we will reduce the elective class requirement from 6 credits to 3 credits. Overall, these changes will to reduce total scheduled credit hours for bachelor's degree completion to 120 credit hours, consistent with KBOR's recommendation/mandate. The BMB faculty approved these changes on Dec. 12, 2017.

Impact (i.e. if this impacts another unit):
The elimination of PHYS325 Physics III, Relativity and Quantum Physics as a requirement may slightly reduce overall enrollment in this class. However, BMB will still recommend the class as an elective for interested students. The proposed reduction in upper division elective credits from 6 to 3 may also lead to small reductions in enrollment for upper division classes in Chemistry, Biology, Statistics, Computer Science or Mathematics.

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12943&returnto=6989

FROM:	TO:
Biochemistry (B.S.) Return to: Biochemistry and Molecular Biophysics Biochemistry seeks to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences. **Bachelor's degree requirements** General requirements for undergraduate major: A total of ~~123~~ credit hours are required for graduation. The BS program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences. To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State. • BIOCH 110 - Biochemistry and Society	**Biochemistry (B.S.)** Return to: Biochemistry and Molecular Biophysics Biochemistry seeks to understand the molecular events of life processes. It applies chemical and physical techniques to elucidate the structure and organization of molecules, particularly macromolecules that are responsible for the structural organization as well as operation and control of all cellular processes. The emerging knowledge has broad importance and consequences for all areas of the life sciences. **Bachelor's degree requirements** General requirements for undergraduate major: A total of 120 credit hours are required for graduation. The BS program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences. To graduate, a student must have a grade of C or better in all science and mathematics courses required for the degree, including transfer courses, as specified below. In addition, to graduate a student must have a 2.2 GPA in required science and mathematics courses taken at K-State. • BIOCH 110 - Biochemistry and Society

Credits: 3 • BIOCH 521 - General Biochemistry **Credits:** 3 • BIOCH 755 - Biochemistry I **Credits:** 3 • BIOCH 756 - Biochemistry I Laboratory **Credits:** 2 • BIOCH 765 - Biochemistry II **Credits:** 3 • BIOCH 775 - Molecular Biophysics **Credits:** 3 • BIOCH 799 - Problems in Biochemistry **Credits:** 1-18 • BIOL 198 - Principles of Biology **Credits:** 4 • BIOL 450 - Modern Genetics **Credits:** 4 • BIOL 455 - General Microbiology **Credits:** 4 • BIOL 541 - Cell Biology **Credits:** 3 • CHM 210 - Chemistry I **Credits:** 4 • CHM 230 - Chemistry II **Credits:** 4 • CHM 350 - General Organic Chemistry **Credits:** 3 • CHM 351 - General Organic Chemistry Laboratory **Credits:** 2 • CHM 371 - Chemical Analysis **Credits:** 4 • CHM 500 - General Physical Chemistry **Credits:** 3 • MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 • MATH 221 - Analytic Geometry and Calculus II **Credits:** 4 • PHYS 113 - General Physics I **Credits:** 4 • PHYS 114 - General Physics II **Credits:** 4	**Credits:** 3 • BIOCH 521 - General Biochemistry **Credits:** 3 • BIOCH 522 – General Biochemistry Lab **Credits: 3** • BIOCH 755 - Biochemistry I **Credits:** 3 • BIOCH 756 - Biochemistry I Laboratory **Credits:** 2 • BIOCH 765 - Biochemistry II **Credits:** 3 • BIOCH 775 - Molecular Biophysics **Credits:** 3 • BIOCH 799 - Problems in Biochemistry **Credits:** 1-18 • BIOL 198 - Principles of Biology **Credits:** 4 • BIOL 450 - Modern Genetics **Credits:** 4 • BIOL 455 - General Microbiology **Credits:** 4 • BIOL 541 - Cell Biology **Credits:** 3 • CHM 210 - Chemistry I **Credits:** 4 • CHM 230 - Chemistry II **Credits:** 4 • CHM 350 - General Organic Chemistry **Credits:** 3 • CHM 351 - General Organic Chemistry Laboratory **Credits:** 2 • CHM 371 - Chemical Analysis **Credits:** 4 • CHM 500 - General Physical Chemistry **Credits:** 3 • MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 • MATH 221 - Analytic Geometry and Calculus II **Credits:** 4 • PHYS 113 - General Physics I **Credits:** 4 • PHYS 114 - General Physics II **Credits:** 4

• STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3 • *Upper-division biochemistry, chemistry, biological science, statistics, computer science, analytical geometry and calculus III, or differential equations elective **Credits:** ~~16-18~~ • *Advanced Biochemistry Laboratories **Credits:** 2 (BIOCH 757, BIOCH 758, BIOCH 766, BIOCH 767) can be applied toward the requirement for BIOCH 799 - Problems in Biochemistry ***Laboratories** Up to two credit hours of Advanced Biochemistry Laboratories can be applied towards the requirement for BIOCH 799-Problems in Biochemistry. • BIOCH 757 - NMR Laboratory **Credits:** 1 • BIOCH 758 - Protein Structure Laboratory **Credits:** 1 • BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1 • BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1 **Note** The courses in the list above satisfy the natural sciences and quantitative reasoning requirements shown in the general requirements for the BS degree. **Arts and Sciences requirements (32 credit hours)** **Biochemistry and Molecular Biophysics track** • BIOCH 110 - Biochemistry and Society **Credits:** 3 • BIOCH 521 - General Biochemistry **Credits:** 3 • BIOCH 755 - Biochemistry I **Credits:** 3 • BIOCH 756 - Biochemistry I Laboratory	• STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3 • *Upper-division biochemistry, chemistry, biological science, statistics, computer science, analytical geometry and calculus III, or differential equations elective **Credits:** 13 • *Advanced Biochemistry Laboratories **Credits:** 2 (BIOCH 757, BIOCH 758, BIOCH 766, BIOCH 767) can be applied toward the requirement for BIOCH 799 - Problems in Biochemistry ***Laboratories** Up to two credit hours of Advanced Biochemistry Laboratories can be applied towards the requirement for BIOCH 799-Problems in Biochemistry. • BIOCH 757 - NMR Laboratory **Credits:** 1 • BIOCH 758 - Protein Structure Laboratory **Credits:** 1 • BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1 • BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1 **Note** The courses in the list above satisfy the natural sciences and quantitative reasoning requirements shown in the general requirements for the BS degree. **Arts and Sciences requirements (32 credit hours)** **Biochemistry and Molecular Biophysics track** • BIOCH 110 - Biochemistry and Society **Credits:** 3 • BIOCH 521 - General Biochemistry **Credits:** 3 • BIOCH 522 – General Biochemistry Lab **Credits: 3** • BIOCH 755 - Biochemistry I **Credits:** 3

Credits: 2 • BIOCH 765 - Biochemistry II **Credits:** 3 • BIOCH 799 - Problems in Biochemistry **Credits:** ~~1-18~~ • BIOL 198 - Principles of Biology **Credits:** 4 • BIOL 450 - Modern Genetics **Credits:** 4 • BIOL 455 - General Microbiology **Credits:** 4 • BIOL 541 - Cell Biology **Credits:** 3 • CHM 210 - Chemistry I **Credits:** 4 • CHM 230 - Chemistry II **Credits:** 4 • CHM 350 - General Organic Chemistry **Credits:** 3 • CHM 351 - General Organic Chemistry Laboratory **Credits:** 2 • CHM 371 - Chemical Analysis **Credits:** 4 • CHM 500 - General Physical Chemistry **Credits:** 3 • MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 • MATH 221 - Analytic Geometry and Calculus II **Credits:** 4 • MATH 222 - Analytic Geometry and Calculus III **Credits:** 4 • PHYS 213 - Engineering Physics I **Credits:** 5 • or • PHYS 223 - Physics I, Mechanics, and Thermodynamics **Credits:** 5 • PHYS 214 - Engineering Physics II **Credits:** 5	• BIOCH 756 - Biochemistry I Laboratory **Credits:** 2 • BIOCH 765 - Biochemistry II **Credits:** 3 • BIOCH 775 Molecular Biophysics **Credits:** 3 • BIOCH 799 - Problems in Biochemistry **Credits:** 1 • BIOL 198 - Principles of Biology **Credits:** 4 • BIOL 450 - Modern Genetics **Credits:** 4 • BIOL 455 - General Microbiology **Credits:** 4 • BIOL 541 - Cell Biology **Credits:** 3 • CHM 210 - Chemistry I **Credits:** 4 • CHM 230 - Chemistry II **Credits:** 4 • CHM 350 - General Organic Chemistry **Credits:** 3 • CHM 351 - General Organic Chemistry Laboratory **Credits:** 2 • CHM 371 - Chemical Analysis **Credits:** 4 • CHM 500 - General Physical Chemistry **Credits:** 3 • MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 • MATH 221 - Analytic Geometry and Calculus II **Credits:** 4 • MATH 222 - Analytic Geometry and Calculus III **Credits:** 4 • PHYS 213 - Engineering Physics I **Credits:** 5 • or • PHYS 223 - Physics I, Mechanics, and Thermodynamics **Credits:** 5 • PHYS 214 - Engineering Physics II

• or • PHYS 224 - Physics II, Electromagnetism, and Sound **Credits:** 5 • ~~PHYS 325 - Physics III, Relativity, and Quantum Physics **Credits:** 4~~ • PHYS 664 - Thermodynamics and Statistical Physics **Credits:** 3 • or • PHYS 775 - Biological Physics **Credits:** 3 • STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3 • *Upper-division electives **Credits:** ~~6~~ (biochemistry, chemistry, biological sciences, statistics, computer science, and mathematics) **Medical Biochemistry Track** • BIOCH 110 - Biochemistry and Society **Credits:** 3 • BIOCH 521 - General Biochemistry **Credits:** 3 • BIOCH 522 - General Biochemistry Laboratory **Credits:** ~~2~~ • BIOCH 571 - Medical Biochemistry **Credits:** 3 • # BIOCH 755 - Biochemistry I **Credits:** 3 • # BIOCH 765 - Biochemistry II **Credits:** 3 • BIOL 198 - Principles of Biology **Credits:** 4 • BIOL 450 - Modern Genetics **Credits:** 4 • BIOL 455 - General Microbiology **Credits:** 4 • BIOL 541 - Cell Biology **Credits:** 3 • BIOL 670 - Immunology **Credits:** 4 • CHM 210 - Chemistry I **Credits:** 4	**Credits:** 5 • or • PHYS 224 - Physics II, Electromagnetism, and Sound **Credits:** 5 • PHYS 664 - Thermodynamics and Statistical Physics **Credits:** 3 • or • PHYS 775 - Biological Physics **Credits:** 3 • STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3 • *Upper-division electives **Credits:** 3 (biochemistry, chemistry, biological sciences, statistics, computer science, and mathematics) **Medical Biochemistry Track** • BIOCH 110 - Biochemistry and Society **Credits:** 3 • BIOCH 521 - General Biochemistry **Credits:** 3 • BIOCH 522 - General Biochemistry Laboratory **Credits:** 3 • BIOCH 571 - Medical Biochemistry **Credits:** 3 • # BIOCH 755 - Biochemistry I **Credits:** 3 • # BIOCH 765 - Biochemistry II **Credits:** 3 • BIOL 198 - Principles of Biology **Credits:** 4 • BIOL 450 - Modern Genetics **Credits:** 4 • BIOL 455 - General Microbiology **Credits:** 4 • BIOL 541 - Cell Biology **Credits:** 3 • BIOL 670 - Immunology **Credits:** 4 • CHM 210 - Chemistry I **Credits:** 4

• CHM 230 - Chemistry II **Credits:** 4 • CHM 350 - General Organic Chemistry **Credits:** 3 • CHM 351 - General Organic Chemistry Laboratory **Credits:** 2 • CHM 371 - Chemical Analysis **Credits:** 4 • MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 • PHYS 113 - General Physics I **Credits:** 4 • PHYS 114 - General Physics II **Credits:** 4 • STAT 340 - Biometrics I **Credits:** 3 • STAT 341 - Biometrics II **Credits:** 3 **The following classes are also acceptable as upper-division electives:** • BIOL 410 - Biology of the Cancer Cell **Credits:** 2 • MATH 222 - Analytic Geometry and Calculus III **Credits:** 4 • MATH 340 - Elementary Differential Equations **Credits:** 4 • [&] PHILO 365 - Medical Ethics **Credits:** 3 • PSYCH 470 - Psychobiology **Credits:** 3 **Notes** • *Upper-division (500 level or above) biochemistry, chemistry, biology, math, statistics, or computer science **Credits:** ~~20~~ • *The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BS degree. ○ Arts & Sciences requirements **Credits:** 32 • [&]This class cannot both fill the Philosophy requirement of the College of Arts & Sciences, and also serve as an	• CHM 230 - Chemistry II **Credits:** 4 • CHM 350 - General Organic Chemistry **Credits:** 3 • CHM 351 - General Organic Chemistry Laboratory **Credits:** 2 • CHM 371 - Chemical Analysis **Credits:** 4 • MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 • PHYS 113 - General Physics I **Credits:** 4 • PHYS 114 - General Physics II **Credits:** 4 • STAT 340 - Biometrics I **Credits:** 3 • STAT 341 - Biometrics II **Credits:** 3 **The following classes are also acceptable as upper-division electives:** • BIOL 341 Human Body **Credits: 3** • BIOL 410 - Biology of the Cancer Cell **Credits:** 2 • MATH 222 - Analytic Geometry and Calculus III **Credits:** 4 • MATH 340 - Elementary Differential Equations **Credits:** 4 • [&] PHILO 365 - Medical Ethics **Credits:** 3 • PSYCH 470 - Psychobiology **Credits:** 3 **Notes** • *Upper-division (500 level or above) biochemistry, chemistry, biology, math, statistics, or computer science **Credits:** 16 • *The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BS degree. ○ Arts & Sciences requirements **Credits:** 32 • [&]This class cannot both fill the Philosophy requirement of the College

elective in the Medical Biochemistry BS degree plan. • #Students may take any 700- or higher-level 3 credit BMB classes as alternatives to BIOCH 755 and BIOCH 765. **Total credit hours required for graduation: (~~123~~)** ⇦Return to: Biochemistry and Molecular Biophysics	of Arts & Sciences, and also serve as an elective in the Medical Biochemistry BS degree plan. • #Students may take any 700- or higher-level 3 credit BMB classes as alternatives to BIOCH 755 and BIOCH 765. **Total credit hours required for graduation: (120)** ⇦Return to: Biochemistry and Molecular Biophysics

Arts and Sciences
Journalism and Mass Communications
Mass Communications B.A./B.S.

Rationale: The A.Q. Miller School faculty has been working for the past three years to revise and update our overall curriculum, an action that is necessary in today's dynamic media market and imperative for a nationally accredited journalism and mass communications program. This form represents actions that 1) modernize our admissions procedures, 2) update the School's overall core curriculum (which includes a 9-hour introductory core for pre-JMC majors as well as a new 24-hour core curricula for Journalism and Strategic Communications), and 3) the merger of the current Advertising and Public Relations sequences into a combined Strategic Communications option. The actions represented here would go into effect for the Fall 2018 semester.

Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of: This action will affect our constituent departments: Agricultural Communications and Journalism, Animal Science Communications and Marketing and the College of Education's Secondary Journalism and English programs. Included as an addendum are e-mails from Dr. Jason Ellis, the interim head of ACJ, and Dr. Todd Goodsen, Curriculum and Instruction head for the College of Education. We have verbal acceptance of these changes from David Nichols of the Animal Science Communications and Marketing program, who met with us on February 15, 2017.

The study of mass communications provides students with the tools to function effectively in an information-intensive society, whether as creators or as consumers of information or strategic communication. Students follow a general course of study in the College of Arts and Sciences, a specialized professional curriculum in the A.Q. Miller School of Journalism and Mass Communications, and a focused selection of courses in an outside discipline. The ~~public relations and advertising sequences focus~~ on preparing students for entry-level positions in the growing field of strategic communications, which assists and advises organizations in managing their communications. Corporations, non-profit organizations, different levels of government and military, and public relations and advertising agencies all rely on educated communicators with public relations and advertising knowledge and skills. As a capstone experience to public relations and advertising classes that teach students the knowledge and skills to qualify for these careers, students complete a professional internship that gives them practical experience in the type of public relations	The study of mass communications provides students with the tools to function effectively in an information-intensive society, whether as creators or as consumers of information or strategic communication. Students follow a general course of study in the College of Arts and Sciences, a specialized professional curriculum in the A.Q. Miller School of Journalism and Mass Communications, and a focused selection of courses in an outside discipline. The strategic communications sequence focuses on preparing students for entry-level positions in the growing field of strategic communications, which assists and advises organizations in managing their communications. Corporations, non-profit organizations, different levels of government and military, and public relations and advertising agencies all rely on educated communicators with public relations and advertising knowledge and skills. As a capstone experience to public relations and advertising classes that teach students the knowledge and skills to qualify for these careers, students complete a professional internship that gives them practical experience in the type of public relations or advertising they are interested in. Students are

or advertising they are interested in. Students are encouraged to take advantage of opportunities offered by our professional organizations, including the pre-professional K-State Public Relations Student Society of America (PRSSA) chapter and the Ad Club, a collegiate chapter of the American Advertising Federation. These organizations are eager to engage and mentor students through networking with professionals, attending professional meetings and seminars and participating in community Projects.

Journalism students gain practical experience through hands-on training at some of the nation's finest student media organizations. Campus media venues include the **Kansas State Collegian**, the daily campus news source published online, through an app, and in print; and the **Royal Purple** yearbook. The A.Q. Miller School operates radio station KSDB-FM, which programs news, sports and music, along with podcasting, streaming audio and Internet content; and KSU's local high definition television station, KKSU-TV, where students produce a community newscast, ~~Channel 8 News~~, and ~~MHK All-Day,~~ a weekly student-staffed news broadcast, which is also streamed live over the Internet. The JMC NewsDesk provides student with practical experience in managing a news assignment desk and developing content for distribution on multiple media platforms.

Mass Communications B.A./B.S.

Return to: Journalism and Mass Communications

Becoming a major

~~To become a major, a student must have a 2.5 GPA based on at least 30 credit hours at the 100-level or higher. **MC 110** with a grade of C or higher~~

encouraged to take advantage of opportunities offered by our professional organizations, including the pre-professional K-State Public Relations Student Society of America (PRSSA) chapter and the Ad Club, a collegiate chapter of the American Advertising Federation. These organizations are eager to engage and mentor students through networking with professionals, attending professional meetings and seminars and participating in community Projects.

Journalism students gain practical experience through hands-on training at some of the nation's finest student media organizations. Campus media venues include the ***Kansas State Collegian***, the daily campus news source published online, through an app, and in print; and the ***Royal Purple*** yearbook. The A.Q. Miller School operates radio station KSDB-FM, which programs news, sports and music, along with podcasting, streaming audio and Internet content; and KSU's local high definition television station, KKSU-TV, where students produce a community newscast, "Channel 8 News," and "MHK All-Day," a weekly student-staffed news broadcast, which is also streamed live over the Internet. The JMC NewsDesk provides student with practical experience in managing a news assignment desk and developing content for distribution on multiple media platforms.

Mass Communications B.A./B.S.

Return to: Journalism and Mass Communications

Becoming a major

Becoming a major a student must successfully pass the nine-hour JMC Gateway, which includes

must be completed. Students must pass the School's Composition Skills Tests (CST) prior to applying to be a major. Students who initially fail the CST may retake the exam up to two additional times during regularly scheduled examination periods. Transfer students must have completed at least 30 credit hours at the 100-level or higher with a minimum 2.5 GPA are eligible to apply for admission to the School during their first semester upon successful completion of the CST and upon completion of a transfer course equivalent to **MC 110** with a grade of C or better. Students with a minimum 2.5 GPA transferring fewer than 30 credit hours to K-State must complete enough K-State credit hours at the 100-level or above to total 30 credit hours, and they must achieve a minimum 2.5 GPA on K-State coursework in order to be considered for admission. A passing CST score is required, and **MC 110** (or its transferable equivalent) must be completed with a grade of C or better. Students with a transfer GPA below 2.5 GPA who bring in 30 or more credit hours must earn a 2.5 GPA on at least 15 credit hours above the 100 level at K-State. **MC 110** (or its transferable equivalent) must be completed with a grade of C or better, and the CST must be completed with a passing score in order to be considered for admission. Students without the requisite 2.5 GPA, and who have fewer than 30 transfer credit hours, must complete 30 K-State credit hours and achieve a 2.5 GPA, pass the CST, and receive credit for **MC 110** or an equivalent class with a grade of C or better in order to be considered for admission. Admission to the major will be based on academic achievement, writing, skills, and promise for success in the major. To apply, a student must submit an application packet to the school by September 15 or February 15. The application forms may be obtained from the School's website. Students who are not admitted after a second	the three, one-hour JMC Writing Academy courses (MC 130 Media Writing Conventions and Mechanics, MC 131 Media Writing Styles and Platforms and MC 132 Media Writing Perspectives); MC 110 Mass Communication in Society (3 hours); and three of the six one-hour Foundational Skills modules (MC 191 Audio Production Foundations, MC 192 Pixel Foundations, MC 193 Video Foundations, MC 194 Social Media Foundations, MC 195 Vector Foundations and MC 196 Web-CMS Foundations). Students must earn C or better in the JMC Gateway classes. Transfer students are eligible to apply for admission to the School during their first semester upon successful completion of the JMC Gateway courses with a C or better. Admission to the major will be granted when the above prerequisites have been met. To apply, a student must submit an application to declare their sequence and outside concentration. The application forms may be obtained from the School's website. Students may take restricted courses and advanced courses ***only*** if they meet the prerequisites. Students who expect to fulfill one or more prerequisites in a current semester may provisionally enroll on the expectation they will be eligible to take the course the following semester. Majors are expected to establish and maintain a minimum 2.5 GPA on all JMC courses applied to the major to graduate.

~~application should meet with the pre-major advisor to discuss academic options.~~ ~~While awaiting eligibility to become a major, all freshman and new transfer students from other institutions are eligible to be pre-majors and enroll in Mass Communication in Society (**MC 110**), which is the required first course in the major. Other courses open to pre-majors include: Journalism in a Free Society (**MC 111**), Web Communication in Society (**MC 112**), Principles of Advertising (**MC 120**), Fundamentals of Public Relations (**MC 180**), and Visual Communication in Mass Media (**MC 210**). Enrollment is restricted in other courses in the major.~~ ~~Students may take restricted courses and advanced courses ***only*** if they meet the prerequisites. Students who expect to fulfill one or more prerequisites in a current semester may provisionally enroll on the expectation they will be eligible to take the course the following semester.~~	
Mass Communications major and outside specialty area Requirements for a mass communications major consist of ~~39~~ credit hours in the School of Journalism and Mass Communications. No more than 6 credit hours from the following classes may be counted as electives within the 39 credit hours required in the major: **MC ~~111, 112,~~ 120, 180, ~~or 210~~**. National accreditation standards require all mass communication graduates to complete at least 72 credit hours of course work outside the school. A student must fulfill the general requirements of the College of Arts and Sciences for either the BA or the BS degree. To graduate, a student must achieve a 2.5 GPA in courses within the school. In addition, K-State requires a cumulative 2.0 GPA in all course work (a C average) to graduate. A curriculum guide for majors and pre-majors is	**Mass Communications major and outside specialty area** Requirements for a mass communications major consist of a minimum of 45 credit hours in the School of Journalism and Mass Communications. No more than 6 credit hours from the following classes may be counted as electives within the 45 credit hours required in the major: **MC 120, 160 or 180**. National accreditation standards require all mass communication graduates to complete at least 72 credit hours of course work outside the school. A student must fulfill the general requirements of the College of Arts and Sciences for either the BA or the BS degree. To graduate, a student must achieve a 2.5 GPA in courses applied to the major within the school. In addition, K-State requires a cumulative 2.0 GPA in all course work (a C average) to graduate.

available in the school office and on the website for the School of Journalism and Mass Communications. Students in the A.Q. Miller School of Journalism and Mass Communications must complete the requirements of one of the school's options in ~~journalism and digital media, advertising, and public relations.~~ Beyond this, students are also required to develop an area of expertise outside of journalism and mass communications, which entails taking a minimum of 15 credit hours in another department on campus. Students can meet this requirement by completing one of the following plans:	A curriculum guide for majors and pre-majors is available in the school office and on the website for the School of Journalism and Mass Communications. Students in the A.Q. Miller School of Journalism and Mass Communications must complete the requirements of one of the school's options in journalism or strategic communications. Beyond this, students are also required to develop an area of expertise outside of journalism and mass communications, which entails taking a minimum of 15 credit hours in another department on campus. Students can meet this requirement by completing one of the following plans:
Outside concentration *Option 1* A minimum of 15 credit hours of course work taken in another department or academic program will satisfy the outside concentration requirement. At least two of the courses must be advanced courses (numbered at the 500-level or higher) or classes with a prerequisite in the same department or program. Up to two courses used to fulfill general College of Arts and Sciences requirements, but not ENGL 100, ENGL 110, ENGL 125, ENGL 200, COMM 105, or COMM 106, may be counted toward completion of the outside concentration. *Option 2* A minimum of 15 credit hours of related course work from two or more departments or academic programs will satisfy the outside concentration requirement. Students choosing a "custom" outside concentration such as this must have their course work plan approved by their faculty advisor in JMC. At least two of the courses must be advanced courses (numbered at the 500-level or higher) or classes with a prerequisite in the same department or program. Custom concentrations will be reviewed by the associate director for undergraduate studies. If the associate director	***Outside concentration*** ***Option 1*** A minimum of 15 credit hours of course work taken in another department or academic program will satisfy the outside concentration requirement. At least two of the courses must be advanced courses (numbered at the 500-level or higher) or classes with a prerequisite in the same department or program. Up to two courses used to fulfill general College of Arts and Sciences requirements, but not ENGL 100, ENGL 110, ENGL 125, ENGL 200, COMM 105, COMM 106, or COMM 109 may be counted toward completion of the outside concentration. ***Option 2*** A minimum of 15 credit hours of related course work from two or more departments or academic programs will satisfy the outside concentration requirement. Students choosing a "custom" outside concentration such as this must have their course work plan approved by their faculty advisor in JMC. At least two of the courses must be advanced courses (numbered at the 500-level or higher) or classes with a prerequisite in the same department or program. Custom concentrations will be reviewed by the associate director for undergraduate studies. If the associate director has

has doubts about the appropriateness of approval, the question will be taken to the school's curriculum committee. Up to two courses used to fulfill general College of Arts and Sciences requirements, but not ENGL 100, ENGL 110, ENGL 125, ENGL 200, COMM 105, or COMM 106, may be counted toward completion of the outside concentration.	doubts about the appropriateness of approval, the question will be taken to the school's curriculum committee. Up to two courses may be used to fulfill general College of Arts and Sciences requirements, but not ENGL 100, ENGL 110, ENGL 125, ENGL 200, COMM 105, COMM 106, or COMM 109 may be counted toward completion of the outside concentration.
Other ways to develop the outside concentration requirement *Complete a minor* Students who declare a minor entirely within a single department or academic program are expected to complete the academic requirements of the minor. Students who declare an interdisciplinary minor are expected to compete the academic requirements of the minor. Completion of a minor satisfies the outside concentration requirement. *Complete a secondary major* Students who declare and complete a secondary major—a major that is interdisciplinary and not within a single department—automatically satisfy the outside concentration. *Complete a "dual" major* Students who declare and complete a second or "dual" major in another department or academic program automatically satisfy the outside concentration.	**Other ways to develop the outside concentration requirement** ***Complete a minor*** Students who declare a minor entirely within a single department or academic program are expected to complete the academic requirements of the minor. Students who declare an interdisciplinary minor are expected to compete the academic requirements of the minor. Completion of a minor satisfies the outside concentration requirement. ***Complete a secondary major*** Students who declare and complete a secondary major—a major that is interdisciplinary and not within a single department—automatically satisfy the outside concentration. ***Complete a "dual" major*** Students who declare and complete a second or "dual" major in another department or academic program automatically satisfy the outside concentration.
Credit through quiz-out Any student may apply to test out of professional practice courses in journalism and mass communications by presenting to the appropriate sequence head a portfolio, tapes, or other suitable evidence of performance that would allow assessment of course-related experience. After review of the material, the sequence head may	**Credit through quiz-out** Any student may apply to test out of professional practice courses in journalism and mass communications by presenting to the appropriate sequence head a portfolio, tapes, or other suitable evidence of performance that would allow assessment of course-related experience. After

refer the application to the appropriate instructor who will determine the number of credit hours, if any, and the method of examination or evaluation to be employed to determine whether credit shall be given. Such credit shall be granted on a Credit/No Credit basis. No more than 12 semester credit hours may be earned through quiz-out and at least 24 of the student's journalism credit hours must be K-State resident hours.

Transfer course work

Students may transfer a maximum of 12 semester credit hours in the major. Courses in journalism and mass communications above the 12-hour maximum will not be accepted as electives outside the major and will not be accepted as part of the graduation requirement. No journalism and mass communications course will transfer to K-State without a grade of C or better.

When transfer students present an accumulation of credits in courses that consist of laboratory work, the school may accept a maximum of 3 credit hours for all such work, equivalent to courses such as Media Practicum.

~~Journalism and Digital Media~~

~~*Print Focus (39-45 credit hours)*~~

- ~~Electives (at least 3 hours at 500-level or above) **Credits:** 6-12~~
- ~~MC 110 - Mass Communication in Society **Credits:** 3~~
- ~~MC 200 - News and Feature Writing **Credits:** 3~~
- ~~MC 241 - Editing **Credits:** 3~~
- ~~MC 251 - Digital News **Credits:** 3~~
- ~~MC 303 - Advanced News Writing **Credits:** 3~~
- ~~MC 316 - Computer-Assisted~~

review of the material, the sequence head may refer the application to the appropriate instructor who will determine the number of credit hours, if any, and the method of examination or evaluation to be employed to determine whether credit shall be given. Such credit shall be granted on a Credit/No Credit basis. No more than 12 semester credit hours may be earned through quiz-out and at least 24 of the student's journalism credit hours must be K-State resident hours.

Transfer course work

Students may transfer a maximum of 12 semester credit hours in the major. Courses in journalism and mass communications above the 12-hour maximum will not be accepted as electives outside the major and will not be accepted as part of the graduation requirement. No journalism and mass communications course will transfer to K-State without a grade of C or better.

When transfer students present an accumulation of credits in courses that consist of laboratory work, the school may accept a maximum of 3 credit hours for all such work, equivalent to courses such as MC 385 Media Practicum.

Pre-major core

JMC Gateway (9 hours)

MC 130 Media Writing Conventions and Mechanics
Credits: 1

MC 131 Media Writing Styles and Platforms
Credits: 1

MC 132 Media Writing Perspectives
Credits: 1
MC 110 Mass Communication in Society
Credits: 3

Select three of the following (3 hours):

Reporting **Credits:** 3

- MC 385 - Media Practicum **Credits:** 1
- MC 416 - Photojournalism **Credits:** 3
- or
- MC 426 - Magazine and Feature Writing **Credits:** 3
- MC 466 - Law of Mass Communications **Credits:** 3
- MC 491 - Mass Communication Internship **Credits:** 1-3
- MC 580 - Convergence Reporting **Credits:** 3

Select one of the following:

- MC 564 - History of Mass Communication **Credits:** 3
- MC 572 - Global Mass Communication **Credits:** 3
- MC 573 - Ethics in Mass Communication **Credits:** 3
- MC 612 - Gender Issues and the Media **Credits:** 3
- MC 585 - Media Management **Credits:** 3

Electronic Focus (39-45 credit hours)

- Electives (at least 3 hours at 500-level or above) **Credits:** 9-15
- MC 110 - Mass Communication in Society **Credits:** 3
- MC 200 - News and Feature Writing **Credits:** 3
- MC 251 - Digital News **Credits:** 3
- MC 316 - Computer-Assisted Reporting **Credits:** 3
- MC 385 - Media Practicum **Credits:** 1
- MC 406 - Advanced Digital

MC 191 Audio Production Foundations
Credits: 1

MC 192 Pixel Foundations
Credits: 1

MC 193 Video Production Foundations
Credits: 1

MC 194 Social Media Foundations
Credits: 1

MC 195 Vector Foundation
Credits: 1

MC 196 Web-CMS Foundations
Credits: 1

Plans of study

Journalism Core (21 hours)

MC 160 Principles of Journalism
Credits: 3

MC 200 News Reporting and Writing Across Platforms
Credits: 3

MC 301 Intro to Media Production
Credits: 3

MC 316 Data Journalism
Credits: 3

MC 341 Media Design and Data Visualization
Credits: 3

*MC 385 Media Practicum
Credits: 1-3

MC 466 Law of Mass Communication
Credits: 3

*MC 491 Mass Communications Internship
Credits: 1-3

MC 580 Storytelling Across Platforms
Credits: 3

(*) Journalism students must take a minimum of one hour of MC 385 Media Practicum and one hour of MC 491 Mass Communications Internship. Beyond that, the combination of hours in the two classes may not exceed three hours, meaning that a student can earn credit for completing an additional hour of either MC 385 or MC 491.

Electives (at least 6 hours at 500 level or above)

News **Credits:** 3 • MC 408 - Producing Digital News **Credits:** 3 • or • MC 471 - Audio and Video Production **Credits:** 3 • MC 466 - Law of Mass Communications **Credits:** 3 • MC 491 - Mass Communication Internship **Credits:** 1-3 • MC 580 - Convergence Reporting **Credits:** 3 **Select one of the following:** • MC 564 - History of Mass Communication **Credits:** 3 • MC 572 - Global Mass Communication **Credits:** 3 • MC 573 - Ethics in Mass Communication **Credits:** 3 • MC 585 - Media Management **Credits:** 3 • MC 612 - Gender Issues and the Media **Credits:** 3 ***Advertising (39-45 credit hours)*** • Electives (at least 3 hours at 500-level or above) **Credits:** 12-18 • MC 110 - Mass Communication in Society **Credits:** 3 • MC 120 - Principles of Advertising **Credits:** 3 • MC 221 - Advertising Strategy & Writing **Credits:** 3 • MC 396 - Strategic Communication Research **Credits:** 3 • MC 446 - Advertising Media Planning **Credits:** 3 • MC 466 - Law of Mass Communications **Credits:** 3	**Credits: 12** ***Strategic Communications Core (21 hours)*** MC 120 Principles of Advertising **OR** MC 180 Principles of Public Relations **Credits: 3** MC 221 Advertising and Writing Strategy OR MC 280 Public Relations Writing **Credits: 3** MC 341 Media Design and Data Visualization **Credits: 3**

~~MC 480 - Advertising and Public Relations Design and Production **Credits:** 3~~ ~~MC 640 - Advertising Campaigns **Credits:** 3~~ ~~**Select one of the following:**~~ ~~MC 557 - Advertising Portfolio **Credits:** 3~~ ~~MC 623 - Global Advertising **Credits:** 3~~ ~~MC 665 - Managing Integrated Strategic Communications **Credits:** 3~~ ~~***Public Relations (39-45 credit hours)***~~ ~~Electives any MC course or courses **Credits:** 9-11~~ ~~MC 110 - Mass Communication in Society **Credits:** 3~~ ~~MC 180 - Fundamentals of Public Relations **Credits:** 3~~ ~~MC 200 - News and Feature Writing **Credits:** 3~~ ~~MC 280 - Public Relations Writing **Credits:** 3~~ ~~MC 380 - Public Relations Research, Strategy and Planning **Credits:** 3~~ ~~MC 382 - Public Relations Case Studies **Credits:** 3~~ ~~MC 396 - Strategic Communication Research **Credits:** 3~~ ~~MC 466 - Law of Mass Communications **Credits:** 3~~ ~~MC 480 - Advertising and Public Relations Design and Production **Credits:** 3~~ ~~MC 491 - Mass Communication Internship **Credits:** 1-3~~ ~~MC 645 - Public Relations~~	MC 396 Strategic Communications Research **Credits: 3** MC 466 Law of Mass Communication **Credits: 3** MC 491 Mass Communications Internship **Credits: 1-3** MC 581 Strategic Communications Campaigns **Credits: 3** Electives (at least 6 hours at 500 level or above) **Credits: 12** **A minimum total credit hours required for graduation: (120)**

~~Campaigns~~ **~~Credits:~~** ~~3~~ **~~Select one of the following:~~** • ~~MC 557 - Advertising Portfolio~~ **~~Credits:~~** ~~3~~ • ~~MC 625 - Media Relations~~ **~~Credits:~~** ~~3~~ • ~~MC 662 - International and Intercultural Public Relations~~ **~~Credits:~~** ~~3~~ • ~~MC 665 - Managing Integrated Strategic Communications~~ **~~Credits:~~** ~~3~~ • ~~MC 682 - Seminar in Public Relations~~ **~~Credits:~~** ~~3~~ **A minimum total credit hours required for graduation: (120)**	

Dean of Arts and Sciences
Medical Laboratory Science (B.A./B.S.)

Rationale: KBOR requested a reduction in the credit hour requirements for baccalaureate degree programs in order to meet best practices for on-time completion. Reduction of credit hours will come from free electives.

Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of: n/a

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12853&returnto=7054

FROM	TO
The medical laboratory science curriculum requires ~~94~~ credit hours (basic requirements and major requirements) at K-State and the completion of 30 hours of clinical training at one of two affiliated hospitals in Kansas City: North Kansas City Hospital or Saint Luke's Hospital of Kansas City. Both sites are NAACLS accredited. Admission into the clinical portion of the training is competitive and acceptance is not guaranteed. Students	The medical laboratory science curriculum requires 90 credit hours (basic requirements and major requirements) at K-State and the completion of 30 hours of clinical training at one of two affiliated hospitals in Kansas City: North Kansas City Hospital or Saint Luke's Hospital of Kansas City. Both sites are NAACLS accredited. Admission into the clinical portion of the training is competitive and acceptance is not guaranteed. Students

are expected to have a ~~minimuym~~ GPA of 2.5 for both overall work and for the required science courses. After completion of all the requirements for the bachelor's degree in MLS, students are eligible to sit for the ASCP Board of Certification (BOC). In addition to the general requirements for a bachelor's degree in the College of Arts and Sciences, the following courses are required: Pre-clinical courses • BIOCH 521 – General Biochemistry **Credits:** 3 • BIOL 198 – Principles of Biology **Credits:** 4 • ~~BIOL 340 – Structure and Function of the Human Body **Credits:** 8~~ • or • KIN 360 – Anatomy and Physiology **Credits:** 8 • *Note: only four credit hours of physiology is required. • BIOL 450 – Modern Genetics **Credits:** 4 • BIOL 455 – General Microbiology **Credits:** 4 • BIOL 670 – Immunology **Credits:** 4 • CHM 210 – Chemistry I **Credits:** 4 • CHM 230 – Chemistry II **Credits:** 4 • CHM 350 – General Organic Chemistry **Credits:** 3 • CHM 351 – General Organic Chemistry Laboratory **Credits:** 2 • MATH 100 – College Algebra **Credits:** 3 • or • MATH 150 – Plane Trigonometry **Credits:** 3 • or	are expected to have a minimum GPA of 2.5 for both overall work and for the required science courses. After completion of all the requirements for the bachelor's degree in MLS, students are eligible to sit for the ASCP Board of Certification (BOC). In addition to the general requirements for a bachelor's degree in the College of Arts and Sciences, the following courses are required: Pre-clinical courses • BIOCH 521 – General Biochemistry **Credits:** 3 • BIOL 198 – Principles of Biology **Credits:** 4 • BIOL 341 – Human Body I **Credits:** 4 • and • BIOL 342 – Human Body II **Credits:** 4 • or • KIN 360 – Anatomy and Physiology **Credits:** 8 • *Note: only four credit hours of physiology is required. • BIOL 450 – Modern Genetics **Credits:** 4 • BIOL 455 – General Microbiology **Credits:** 4 • BIOL 670 – Immunology **Credits:** 4 • CHM 210 – Chemistry I **Credits:** 4 • CHM 230 – Chemistry II **Credits:** 4 • CHM 350 – General Organic Chemistry **Credits:** 3 • CHM 351 – General Organic Chemistry Laboratory **Credits:** 2 • MATH 100 – College Algebra **Credits:** 3 • or • MATH 150 – Plane Trigonometry **Credits:** 3

- MATH 205 – General Calculus and Linear Algebra **Credits:** 3
- or
- MATH 220 – Analytic Geometry and Calculus I **Credits:** 4
- STAT 325 – Introduction to Statistics **Credits:** 3
- or
- STAT 340 – Biometrics I **Credits:** 3
- or
- STAT 350 – Business and Economic Statistics I **Credits:** 3

Choose one of the following:

- BIOL 530 – Pathogenic Microbiology **Credits:** 3
- BIOL 541 – Cell Biology **Credits:** 3
- BIOL 545 – Human Parasitology **Credits:** 3
- BIOL 609 – Cellular and Molecular Biology of Human Diseases **Credits:** 3
- BIOL 730 – General Virology **Credits:** 3
- PHYS 113 – General Physics I **Credits:** 4

Notes:

Because requirements for admission into clinical programs may change or vary, consultation with a medical laboratory science advisor is recommended.

For more information go to K-State Pre-Health.

Total credit hours required for graduation: (~~124~~)

- or
- MATH 205 – General Calculus and Linear Algebra **Credits:** 3
- or
- MATH 220 – Analytic Geometry and Calculus I **Credits:** 4
- STAT 325 – Introduction to Statistics **Credits:** 3
- or
- STAT 340 – Biometrics I **Credits:** 3
- or
- STAT 350 – Business and Economic Statistics I **Credits:** 3

Choose one of the following:

- BIOL 530 – Pathogenic Microbiology **Credits:** 3
- BIOL 541 – Cell Biology **Credits:** 3
- BIOL 545 – Human Parasitology **Credits:** 3
- BIOL 609 – Cellular and Molecular Biology of Human Diseases **Credits:** 3
- BIOL 730 – General Virology **Credits:** 3
- PHYS 113 – General Physics I **Credits:** 4

Notes

Because requirements for admission into clinical programs may change or vary, consultation with a medical laboratory science advisor is recommended.

For more information go to K-State Pre-Health.

Total credit hours required for graduation: (120)

Changes to Music Education (B.M.E.)

Rationale: The ratioanle for this change is to develop a process by which the demonstration of piano proficiency is more efficient and transparent to both the faculty and students. Currently, students are not always clear on expectations, have to enroll in a separate class and often enroll in the section multiple times even though once is enough. This change would streamline the path to proficiency and eliminate the hidden credits currently in the program due to not meeting the proficieny in the alloted time.

Impact: The department head was contacted in the summer of 2017 to begin revising the curriculum to better reflect the outcomes expected of the students. Upon a detailed analysis, it was revealed that there was a larger task at hand and restructuring of the courses and piano expectations was undertaken.

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12894

The program of study leading to this degree is a nine-semester curriculum designed to prepare music teachers for grades pre K-12. With careful planning and enrollment during summer session(s) all requirements may be completed in four years. Within this curriculum there are two emphases- vocal/choral music, and instrumental music.	The program of study leading to this degree is a nine-semester curriculum designed to prepare music teachers for grades pre K-12. With careful planning and enrollment during summer session(s) all requirements may be completed in four years. Within this curriculum there are two emphases- vocal/choral music, and instrumental music.
Bachelor's degree requirements	**Bachelor's degree requirements**
Professional educational requirements	**Professional educational requirements**
• DED 075 - Orientation to Teacher Education at KSU **Credits:** 0 • EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1 • EDCEP 315 - Educational Psychology **Credits:** 3 • EDCEP 525 - Interpersonal Relations in the Schools **Credits:** 1 • EDSEC 200 - Teaching as a Career **Credits:** 1 • EDSEC 230 - Early Field	• DED 075 - Orientation to Teacher Education at KSU **Credits:** 0 • EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1 • EDCEP 315 - Educational Psychology **Credits:** 3 • EDCEP 525 - Interpersonal Relations in the Schools **Credits:** 1 • EDSEC 200 - Teaching as a Career **Credits:** 1 • EDSEC 230 - Early Field

Experience **Credits:** 1

- EDSEC 310 – Foundations of Education **Credits:** 3
- EDSEC 376 – Core Teaching Skills: Secondary/Middle **Credits:** 3
- EDSEC 455 – Teaching in a Multicultural Society **Credits:** 1
- EDSEC 477 – Content Area Literacies and Diverse Learners **Credits:** 2
- EDSEC 582 – Teaching Internship in Music **Credits:** 6–12
- EDSP 323 – Exceptional Students in the Secondary School **Credits:** 2
- HDFS 110 – Introduction to Human Development **Credits:** 3

For the College of Education licensure:

For admission to the teacher education program and licensure in the state of Kansas, please visit the College of Education website.

Music requirements for all options:

- Major performing organization each semester except the professional semester
- MUSIC 050 – Recital Attendance **Credits:** 0 (7 semesters)
- MUSIC 060 – Piano Proficiency **Credits:** 0
- MUSIC 210 – Music Theory I **Credits:** 3
- MUSIC 230 – Music Theory II **Credits:** 3
- MUSIC 231 – Aural Skills I **Credits:** 1
- MUSIC 232 – Fundamentals of Teaching Music **Credits:** 2
- MUSIC 249 – Introduction to Music of the World **Credits:** 3
- MUSIC 320 – Music Theory III **Credits:** 3

Experience **Credits:** 1

- EDSEC 310 – Foundations of Education **Credits:** 3
- EDSEC 376 – Core Teaching Skills: Secondary/Middle **Credits:** 3
- EDSEC 455 – Teaching in a Multicultural Society **Credits:** 1
- EDSEC 477 – Content Area Literacies and Diverse Learners **Credits:** 2
- EDSEC 582 – Teaching Internship in Music **Credits:** 6–12
- EDSP 323 – Exceptional Students in the Secondary School **Credits:** 2
- HDFS 110 – Introduction to Human Development **Credits:** 3

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Music requirements for all options:

- Major performing organization each semester except the professional semester
- MUSIC 050 – Recital Attendance **Credits:** 0 (7 semesters)
- MUSIC 060 – Piano Proficiency **Credits:** 0
- MUSIC 210 – Music Theory I **Credits:** 3
- MUSIC 230 – Music Theory II **Credits:** 3
- MUSIC 231 – Aural Skills I **Credits:** 1
- MUSIC 232 – Fundamentals of Teaching Music **Credits:** 2
- MUSIC 249 – Introduction to Music of the World **Credits:** 3
- MUSIC 320 – Music Theory III **Credits:** 3

- MUSIC 321 - Aural Skills II **Credits:** 1
- MUSIC 322 - Aural Skills Proficiency **Credits:** 0
- MUSIC 360 - Music Theory IV **Credits:** 3
- MUSIC 361 - Aural Skills III **Credits:** 1
- MUSIC 417 - Conducting **Credits:** 2
- MUSIC 501 - Half Recital **Credits:** 0
- MUSIC 502 - Full Recital **Credits:** 0
- MUSIC 511 - Music in the Schools K-6 **Credits:** 3
- MUSIC 512 - Music Program in Junior/Senior High Schools **Credits:** 3
- MUSIC 525 - Instrumentation and Arranging **Credits:** 2
- MUSIC 530 - Music History I: Ancient Greece through 1700 **Credits:** 3
- MUSIC 531 - Music History II: 1700 to 1850 **Credits:** 3
- MUSIC 532 - Music History III: 1850 to the Present **Credits:** 3
- MUSIC 670 - Advanced Studies in Music Education **Credits:** 2

Applied lessons each semester except the professional semester

- MUSIC 255 - Lower-Division Performance **Credits:** 1-4
- and/or
- MUSIC 455 - Upper-Division Performance **Credits:** 0-4

Note:

A half recital or an extended "jury" recital is required before graduation. Divisional recommendation determines the methods of satisfying this requirement.

Piano proficiency requirements must be met one semester before scheduling student

- MUSIC 321 - Aural Skills II **Credits:** 1
- MUSIC 322 - Aural Skills Proficiency **Credits:** 0
- MUSIC 360 - Music Theory IV **Credits:** 3
- MUSIC 361 - Aural Skills III **Credits:** 1
- MUSIC 417 - Conducting **Credits:** 2
- MUSIC 501 - Half Recital **Credits:** 0
- MUSIC 502 - Full Recital **Credits:** 0
- MUSIC 511 - Music in the Schools K-6 **Credits:** 3
- MUSIC 512 - Music Program in Junior/Senior High Schools **Credits:** 3
- MUSIC 525 - Instrumentation and Arranging **Credits:** 2
- MUSIC 530 - Music History I: Ancient Greece through 1700 **Credits:** 3
- MUSIC 531 - Music History II: 1700 to 1850 **Credits:** 3
- MUSIC 532 - Music History III: 1850 to the Present **Credits:** 3
- MUSIC 670 - Advanced Studies in Music Education **Credits:** 2

Applied lessons each semester except the professional semester

- MUSIC 255 - Lower-Division Performance **Credits:** 1-4
- and/or
- MUSIC 455 - Upper-Division Performance **Credits:** 0-4

Note:

A half recital or an extended "jury" recital is required before graduation. Divisional recommendation determines the methods of satisfying this requirement.

Piano proficiency requirements must be met one semester before scheduling student

teaching. **Additional music requirements for instrumental emphasis** Instrumental majors (Winds and percussion only) are required to participate in marching band for at least two semesters (preferably during the freshman and sophomore years. • MUSIC 112 – University Choir **Credits:** 0–1 (Enroll for 1 credit) • or a large vocal organization • MUSIC 113 – University Band **Credits:** 0–1 (as the lab for MUSIC 518 – Instrumental Conducting) • MUSIC 203 – Vocal Techniques I **Credits:** 1 • MUSIC 204 – Vocal Techniques II **Credits:** 1 • ~~MUSIC 206 – Piano Class I **Credits:** 1~~ • ~~or~~ • ~~MUSIC 207 – Piano Class II **Credits:** 1~~ • All MUSIC 280/480 can be taken for **Credits:** 0 • MUSIC 513 – Teaching Beginning Band and Jazz Techniques **Credits:** 1 • MUSIC 518 – Instrumental Conducting **Credits:** 2	teaching. **Additional music requirements for instrumental emphasis** Instrumental majors (Winds and percussion only) are required to participate in marching band for at least two semesters (preferably during the freshman and sophomore years. • MUSIC 112 – University Choir **Credits:** 0–1 (Enroll for 1 credit) • or a large vocal organization • MUSIC 113 – University Band **Credits:** 0–1 (as the lab for MUSIC 518 – Instrumental Conducting) • MUSIC 203 – Vocal Techniques I **Credits:** 1 • MUSIC 204 – Vocal Techniques II **Credits:** 1 • (MUSIC 211 – Piano Class I **Credits:** 1 • MUSIC 212 – Piano Class II **Credits**: 1 • MUSIC 213 – Piano Class III **Credits**: 1 • MUSIC 214 – Piano Class IV **Credits:** 1) • Or 4 credits from MUSIC 254 or MUSIC 255 • (MUSIC 254 – Secondary Performance Credits: 1–2 • MUSIC 255 – Lower-Division Performance Credits: 1–2) • MUSIC 060 – Piano Proficiency (Corequisite with MUSIC 214, but can be enrolled in separately if taking piano lessons) • All MUSIC 280/480 can be taken for **Credits:** 0 • MUSIC 513 – Teaching Beginning Band and Jazz Techniques **Credits:** 1 • MUSIC 518 – Instrumental Conducting **Credits:** 2

Select an additional 8 semester credit hours according to the major instrument

- MUSIC 234 – String Techniques and Materials **Credits:** 1
- MUSIC 235 – Percussion Techniques and Materials **Credits:** 2
- MUSIC 236 – Clarinet & Saxophone Woodwind Techniques and Materials **Credits:** 1
- MUSIC 237 – Double Reed and Flute Woodwind Techniques and Materials **Credits:** 1
- MUSIC 238 – High Brass Techniques and Materials **Credits:** 1
- MUSIC 239 – Low Brass Techniques and Materials **Credits:** 1
- MUSIC 427 – Advanced String Techniques and Materials **Credits:** 1–2 (1 credit)

Additional requirements for vocal/choral emphasis

If voice is the major performance area

- ~~Keyboard **Credits:** 2~~

Select an additional 8 semester credit hours according to the major instrument

- MUSIC 234 – String Techniques and Materials **Credits:** 1
- MUSIC 235 – Percussion Techniques and Materials **Credits:** 2
- MUSIC 236 – Clarinet & Saxophone Woodwind Techniques and Materials **Credits:** 1
- MUSIC 237 – Double Reed and Flute Woodwind Techniques and Materials **Credits:** 1
- MUSIC 238 – High Brass Techniques and Materials **Credits:** 1
- MUSIC 239 – Low Brass Techniques and Materials **Credits:** 1
- MUSIC 427 – Advanced String Techniques and Materials **Credits:** 1–2 (1 credit)

Additional requirements for vocal/choral emphasis

If voice is the major performance area

- (MUSIC 211 – Piano Class I **Credits:** 1
- MUSIC 212 – Piano Class II **Credits**: 1
- MUSIC 213 – Piano Class III **Credits**: 1
- MUSIC 214 – Piano Class IV **Credits:** 1)
- Or 4 credits from MUSIC 254 or MUSIC 255
- (MUSIC 254 – Secondary Performance Credits: 1–2
- MUSIC 255 – Lower-Division Performance Credits: 1–2)
- MUSIC 060 – Piano Proficiency (Corequisite with MUSIC 214, but can

- MUSIC 513 – Beginning Band and Jazz Techniques **Credits:** 1
- Woodwind Techniques
- Brass Techniques
- Ensemble
- MUSIC 112 – University Choir **Credits:** 0–1 (0 credit) as the lab for MUSIC 517 – Choral Conducting
- MUSIC 234 – String Techniques and Materials **Credits:** 1
- MUSIC 235 – Percussion Techniques and Materials **Credits:** 2
- MUSIC 236 – Clarinet & Saxophone Woodwind Techniques and Materials **Credits:** 1
- or
- MUSIC 237 – Double Reed and Flute Woodwind Techniques and Materials **Credits:** 1
- MUSIC 238 – High Brass Techniques and Materials **Credits:** 1
- or
- MUSIC 239 – Low Brass Techniques and Materials **Credits:** 1
- MUSIC 475 – Opera Workshop **Credits:** 1–18 (Enroll for 1 credit)
- or
- MUSIC 490 – Collegium Musicum **Credits:** 1
- MUSIC 517 – Choral Conducting **Credits:** 2

Total credit hours required for graduation, depending on emphasis: (141–142)

be enrolled in separately if taking piano lessons)

- MUSIC 513 – Beginning Band and Jazz Techniques **Credits:** 1
- Woodwind Techniques
- Brass Techniques
- Ensemble
- MUSIC 112 – University Choir **Credits:** 0–1 (0 credit) as the lab for MUSIC 517 – Choral Conducting
- MUSIC 234 – String Techniques and Materials **Credits:** 1
- MUSIC 235 – Percussion Techniques and Materials **Credits:** 2
- MUSIC 236 – Clarinet & Saxophone Woodwind Techniques and Materials **Credits:** 1
- or
- MUSIC 237 – Double Reed and Flute Woodwind Techniques and Materials **Credits:** 1
- MUSIC 238 – High Brass Techniques and Materials **Credits:** 1
- or
- MUSIC 239 – Low Brass Techniques and Materials **Credits:** 1
- MUSIC 475 – Opera Workshop **Credits:** 1–18 (Enroll for 1 credit)
- or
- MUSIC 490 – Collegium Musicum **Credits:** 1
- MUSIC 517 – Choral Conducting **Credits:** 2

Total credit hours required for graduation, depending on emphasis: (141–142)

Political Science
Changes to the Political Science B.A./B.S. – New tracks

Rationale: Adding optional track career paths to guide students in their choices of courses.

Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of: N/A

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12889&returnto=7043

FROM	TO
A major consists of a minimum of 36 credit hours in political science, distributed as follows:	A major consists of a minimum of 36 credit hours in political science, distributed as follows:
Bachelor's degree requirements	**Bachelor's degree requirements**
Introductory courses	**Introductory courses**
• POLSC 115 - U.S. Politics **Credits:** 3	• POLSC 115 - U.S. Politics **Credits:** 3
Plus two courses from:	**Plus two courses from:**
• POLSC 135 - Introduction to Comparative Politics **Credits:** 3 • POLSC 301 - Introduction to Political Thought **Credits:** 3 • POLSC 333 - World Politics **Credits:** 3	• POLSC 135 - Introduction to Comparative Politics **Credits:** 3 • POLSC 301 - Introduction to Political Thought **Credits:** 3 • POLSC 333 - World Politics **Credits:** 3
Methods course	**Methods course**
To be taken after completion of at least 2 of these 3 introductory courses: POLSC 115, 135, and 333: • POLSC 400 - Political Inquiry and Analysis **Credits:** 3	To be taken after completion of at least 2 of these 3 introductory courses: POLSC 115, 135, and 333: • POLSC 400 - Political Inquiry and Analysis **Credits:** 3
Advanced courses (12 credit hours)	**Advanced courses (12 credit hours)**
To be taken after POLSC 400. Intersession courses cannot be used to fulfill these requirements. Four courses, at the 500 level or above, in two of the following areas: • Political thought	To be taken after POLSC 400. Intersession courses cannot be used to fulfill these requirements. Four courses, at the 500 level or above, in two of the following areas: • Political thought

- American government and politics
- International relations
- Comparative government and politics

Electives

Twelve credit hours, including any political science course except for POLSC 350 Current Issues. Only 3 credit hours of the major are allowed to be readings or problems. Only six credit hours of the major are allowed to be internship credits.

- American government and politics
- International relations
- Comparative government and politics

Electives

Twelve credit hours, including any political science course except for POLSC 350 Current Issues. Only 3 credit hours of the major are allowed to be readings or problems. Only six credit hours of the major are allowed to be internship credits.

Optional Tracks

Public Service Track

The public service track is designed for students interested in an administrative position in the public or nonprofit sector.

Required: (6 credits)

- POLSC 337- Introduction to Public Policy Credits: (3)
- POLSC 507- Introduction to Public Administration Credits: (3)

Electives: (3 credits)

- POLSC 607 – Administrative Law Credits: (3)
- POLSC 618 – Urban Politics Credits: (3)
- POLSC 620 – State and Local Government Credits: (3)

Concurrent Degree Students Choose (3 credits)

- POLSC 700 – Research Methods in Political Science Credits: (3)
- POLSC 702 - Public Administration and Society Credits: (3)
- POLSC 708 – Public Personnel Administration Credits: (3)
- POLSC 710 – Policy Analysis and Evaluation Credits: (3)

	• POSLC 735 – Public Organization Theory Credits: (3) • POLSC 737 – Public Budgeting Credits: (3) **Global Politics and Security Track** The Global Politics and Security Track is for students who are interested working in international security, diplomacy, international organizations and related non-profit organizations. Required: (6 credit hours) • POLSC 333 – World Politics Credits: (3) • POLSC 543 – American Foreign Policy Credits: (3) Electives: (3 credit hours) • POLSC 540 – Global Security Credits: (3) • POLSC 541 – Politics of World Economy Credits: (3) • POLSC 545 – Politics of Developing Nations Credits: (3) • POLSC 549 – International Defense Strategies Credits: (3) • POLSC 683 – Ethnic Conflict Credits: (3) • POLSC 642 – International Conflict Credits: (3) • POLSC 653 – International Politics of the Middle East Credits: (3) **Society and Environment Track** The Society and Environment Track is for students who are interested in working in the areas of social and environmental problem-solving, including working in agricultural and food-related private businesses as they attempt to make product with less negative social and environmental impact, in non-profit and political advocacy groups, and social and environmental change programs at every level.

	Required: (6 credits) • POLSC 377 – Introduction to Public Policy Credits: (3) • POLSC 643 – Global Human Rights Credits: (3) • Or • POLSC 401 – Environmental Political Thought Credits: (3) Electives: (3 credits) • POLSC 601 – U.S, Energy: Pathways to Sustainability Credits: (3) • POLSC 618 – Urban Politics Credits: (3) • POLSC 672 – Ideologies Credits: (3) • POLSC 606 – Gender and Politics Credits: (3) • POLSC 667 – American Political Thought Credits: (3) • POLSC 545 – The Politics of Developing Nations Credits: (3) **Politics of the Global South Track** The Politics of the Global South Track is for students interested in careers that impact or involve the non-Western world. This track will include knowledge of African, Asian, Latin American, and Middle Eastern countries. Required: (6 credit hours) • POLSC 135 – Introduction to Comparative Politics Credits: (3) • POLSC 526 – Comparative Political Institutions Credits: (3) • Or • POLSC 545 – The Politics of Developing Nations Credits: (3) Electives: (3 credit hours) • POLSC 524 – Political Islam Credits: (3)

	• POLSC 527 – Comparative Political Corruption Credits: (3) • POLSC 606 – Gender and Politics Credits: (3) (when approved by department) • POLSC 622 – Latin American Politics Credits: (3) • POLSC 625 – East Asian Politics Credits: (3) • POLSC 624 – Middle East Politics Credits: (3) • POLSC 626 – African Politics Credits: (3) • POLSC 653 – International Politics of Middle East Credits: (3) • POLSC 655 – International Politics of Latin America Credits: (3) • POLSC 654 – International Politics of Africa Credits: (3) • POLSC 543 – Global Human Rights Credits: (3) **The Law Track** This track is designed for students interested in going into the legal profession in any capacity, whether going on to law school or into legal research and assistance. It is useful for those who wish to work in private business in the capacity of governmental and legal relations. Required: (6 credit hours) • POLSC 115 – U.S. Politics Credits: (3) • POLSC 614 – Constitutional Law 1 Credits: (3) • Or • POLSC 615 – Constitutional Law 2 Credits: (3) Electives: (3 credit hours) • POLSC 612 – The Judicial Process

Information for dual majors and nonmajors

The political science program is often advantageously combined with another major. Those seeking dual majors should coordinate their program in consultation with advisors in each area.

Total credit hours required for graduation: (120)

Credits: (3)

- POLSC 607 – Administrative Law Credits: (3)
- *POLSC 614 – Constitutional Law 1 Credits: (3)
- or
- *POLSC 615 – Constitutional Law 2 Credits: (3)
- *not taken for required course
- POLSC 647 – International Law Credits: (3)
- POLSC 670 – Law, Politics and Literature Credits: (3)

Information for dual majors and nonmajors

The political science program is often advantageously combined with another major. Those seeking dual majors should coordinate their program in consultation with advisors in each area.

Total credit hours required for graduation: (120)

Business Administration

NEW: Business of Sports and Entertainment Certificate

Business of Sports and Entertainment Certificate

BACKGROUND AND EDUCATIONAL OBJECTIVES:

The business of sports and entertainment (BS&E) is wide reaching and involves not only organizations directly involved in providing sports and entertainment, but also organizations that market products and services through sports and entertainment. Sports and entertainment permeates contemporary culture, particularly in North America. Sports organizations include teams, leagues, associations, and events, as well as equipment and apparel firms. The sports industry not only entails the games, but also the fan experience, hence the coupling with entertainment. Entertainment also encompasses organizations in the film, television, and music industries. Prominent brands commonly promote their products and services through these organizations, either through sponsorships or through advertising.

Revenue for sports and music events is expected to rise over ten percent annually for the next five years just from ticket sales. (Statistica Digital Market Outlook 2017). Event promotion, as an industry, has a consistent annual growth as well. Whether the economy is in a boom or bust, sports and entertainment venues thrive, giving event promotion an annualized growth rate of 5.1% (IBISWorld 2017). Consumers are willing to splurge on events. Corporations, therefore, are willing to spend to promote these events through sponsorships, as well as showcase their products at these events. Events draw large crowds who are willing to spend on food, beverage and merchandise. Business is involved in many ways – from the building of venues, operation of venues, sponsorship of events, product and brand management, as well as advertising and sales.

Not only are large businesses involved in sports and entertainment, but small businesses as well. Dance studios, community theaters, even artists and music teachers need skills to enhance their businesses.

The Business of Sports and Entertainment Certificate is designed to develop insights and opportunities in a rapidly growing industry for K-State students. The purpose of the Business of Sports and Entertainment Certificate is three-fold. First, it provides an opportunity for students interested in a career in sports or entertainment to augment the perceived value of their major and distinguish themselves on the job market. Second, it provides a deep understanding of the role of sports and entertainment in business, enhanced by hands-on, real-time experiential learning opportunities. Third, it provides an appealing context that both draws students and motivates learning in the essential areas of marketing, economics, and management, in a way that is transferrable to virtually any type of business.

Even though sports-related programs are prevalent at several Kansas schools, including University of Kansas and Wichita State University, none prepare students for the jobs mentioned above. Both Kansas and Wichita State offer a sports management program housed in their School of Education. These programs prepare students for positions in the sports and

athletics industry, such as high school coaches, fitness and recreation positions, as well as intercollegiate athletics administration. Both schools offer degree programs at the undergraduate and graduate levels. Both the University of Arizona and the University of Colorado-Boulder offer sports-related certificate programs. The University of Denver offers a Sports and Entertainment Marketing degree within their Business School. However, it is only at the graduate level.

STATEMENT OF NEED:

The rapidly changing sports and entertainment landscape, with declines in attendance for sporting events and plateaus in entertainment revenue, yet increases in revenue from media rights deals and merchandise, is experiencing an increasing impact of technology/data/analytics in decision-making. The Business of Sports and Entertainment Certificate will give students needed business skills for jobs in the sports and entertainment industries, but also in corporations where sports and entertainment decisions are made. Revenue generation in sports is critical - particularly beyond ticket sales and donations – at both the collegiate and professional levels. The purpose of this certificate is to develop marketing, economic, and management skills needed in this environment.

As in many industries, the business models are constantly evolving as a result of technological innovations and global influences. There is a greater increase in the use of user-generated content that competes with and in some cases compliments industry standard bearers. Paramount is the need to generate new marketing strategies that create valuable partnerships and revenue streams. Other industries are seeing these effects escalate and thus, demonstrate a further need for students to adapt these influences.

Recruitment for athletes at the college level (and even at the professional level through free agency) has become aggressive. Colleges are looking for advantages in order to recruit talent. The Business of Sports and Entertainment Certificate can be used to attract student-athletes by capitalizing on existing passions and interests. This will carry over into the classroom - producing engaged, motivated students. As a result, students pursuing the certificate will be better prepared and more experienced, allow them to succeed on the job market regardless of the career path they choose.

Student demand for sports and entertainment courses is high. One course that will be required for the certificate, MKTG630: Sports Marketing, has a current enrollment for the Spring semester of 196. A poll of 115 students in the Fall 2017 section of the course found that 80% “would have pursued if offered” or “will pursue” the proposed certificate. Seventy-two percent of the students in the Spring 2018 section indicated they would have pursued the certification if offered or will pursue the certificate when offered, with another 20% interested in receiving more information.

Strong relationships are already in place with the premier sports brands in our region, primarily built through MKTG630: Sports Marketing’s Sports Marketing Speaker Series. Speakers from the following organizations have appeared or are already scheduled to appear as guests since Fall 2017: Kansas City Chiefs, Kansas City Royals, Oklahoma City Thunder, Sporting Kansas City, K-State Athletics, Kansas City Sports Commission, New Orleans Pelicans, New Orleans Saints, USA Triathlon, Kansas City T-Bones, New Jersey Devils, and Philadelphia 76ers. Speakers from

these organizations not only relay their experience and expertise to the students in the classroom, but also incorporate meetings with small groups of students with a particular interest in their industries while on campus. In some instances, groups of students have had the opportunity for experiential learning by working directly with these organizations in their marketing and brand building efforts.

Jobs in sports business include marketing analyst, digital analyst, business affairs coordinator, marketing coordinator, account management and strategic business ventures specialist /E(www.indeed.com). Jobs in entertainment business include customer experience manager, business development manager, director of game entertainment, marketing events coordinator, and sales manager (www.indeed.com).

Current K-State recruiters can also find value in this program. MuscleMilk (Hormel) is the official partner of the Australian Football League. Frito Lay, GTM Sportswear, and other corporations with sports interest have hired K-State Business students.

CURRICULUM OVERVIEW:

The Business of Sports and Entertainment Certificate will consist of 15 hours, with three core courses and two elective courses. The current proposal is focused at undergraduate students, with the potential of later expansion into a graduate program.

A. Core Courses

1. MKTG 630: Sports Marketing
   This course gives students the opportunity to understand the coupling of marketing and analytics in a sports context. Speakers from various sports organizations discuss marketing in sports.
   Prerequisite: MKTG 400
2. MKTG 625: Entertainment Marketing
   The course examines the entertainment industry using strategic marketing approaches. The goal is for students to assess market opportunities, develop marketing strategies, and design implementation approaches. We will explore the theory and applications of marketing concepts through a mix of cases, discussions, lectures, guest speakers, individual assignments, and group projects.
   Prerequisite: MKTG 400
3. ECON 524 Sports Economics
   An economic analysis of professional and amateur sports. Pay determination of professional athletes, monopsony power of owners, discrimination, the importance of leagues, competitive balance, antitrust issues, collective bargaining, the financing of sports stadiums, and current economic issues in sports.
   Prerequisite: ECON 120 or AGEC 120 or AGEC 121

B. Elective Courses (students will choose two)

- MANGT 630: Sports Management
  While we are all familiar with the star athletes and coaches that provide the face of the industry, running a successful sports franchise requires well-trained and innovative

managers behind the scenes. Throughout the semester, students will explore the management skills and knowledge required to operate in the unique context of sports. Major management topics covered include innovation, diversity and ethics; human resource management; organizational strategy; and leadership – all based in the unique context of sports.
Prerequisite: MGMT 420 or Junior Standing

- MKTG 495 – Marketing Internship
  Applied marketing business experience designed to coordinate the interests of students and firms.
- MKTG 542: Fundamentals of Professional Selling
  Focuses on interpersonal communications between buyers and sellers, both oral and written. The mechanics and intricacies of personal sales presentations are developed through practice.
- HM463: Business Event Coordination
  In this course, students will plan a theoretical event from start to completion and learn details pertinent to the organization and execution of a business meeting. Topics include objectives, timelines, finance and contracts, site selection, program development, marketing, and evaluation.

OTHER REQUIREMENTS:

- Students must earn at least a 2.5 GPA in all courses taken to fulfill the requirements of the certificate program.
- Issued by the K-State College of Business Administration, the student's transcript will note the certification.

RESOURCE IMPLICATIONS:

Two new courses will be required, MKTG 625: Entertainment Marketing and MGMT 630: Sports Management. The other core and elective courses already exist and will be offered regularly by the Marketing, Management, Economics, and Hospitality Management departments. The addition of a Marketing elective helps meet the departmental need for additional electives due to the increase in the number of Marketing electives needed with the new 120 hour degree requirements. The expectation is the accommodation of initial student demands for all courses in the coming semesters. Opportunities for external fundraising are already being pursued with the potential to help facilitate the offering of these courses. Thus, we believe the Certificate will not have a detrimental effect on the College's resources. There is no expectation of needing additional faculty/staff resources.

For students pursuing the certificate, it will not require business students to take additional classes as students can incorporate these courses as electives. We believe that the Certificate will be an attractive option obtained with a minimum of additional hours.

REQUESTED EFFECTIVE DATE:

Spring 2019

STUDENT LEARNING GOALS

A student completing the certificate in Business of Sports and Entertainment should be able to:

- apply quantitative reasoning to sports and entertainment strategy decisions,
- form and execute marketing strategies,
- apply management concepts to current trends and issues in sports and entertainment, and
- understand economic analysis of sports and entertainment.

ASSESSMENT PLAN

- In MKTG 630, selected test items will be examined annually in order to determine students' comprehension of the different functional areas of the sports/entertainment industry and their ability to apply the basic principles.
- Feedback from companies where students intern and/or are hired will be solicited to determine if the courses are adequately preparing students for a career in the industry.
- Students completing the program will be surveyed every five years to determine how the certificate program helped prepare them for a career in the sports and entertainment industry.

APPENDIX 1

University of Kansas

This undergraduate program is housed in the KU School of Education. Courses include sociology of sports, sports ethics and event management.

Wichita State University

The WSU undergraduate program housed in the College of Education offers both a major and a minor in sports management. The courses are intended to be sports management specific, and not general business related according to the brochure.

University of Denver

Undergraduate degree with a major in Sports Business. Students are required to take the required University and Business core courses, as well as sports business courses. Students also have the opportunity to take a 2-week study abroad course designed for the sports business program.

University of Colorado-Boulder

The UCB certificate is a 6-credit "boot camp" where students learn about sports management in a two month, intensive summer certificate program.

Engineering

Biomedical Engineering (BME) (B.S.)

Rationale: The Kansas Board of Regents has requested that the Kansas State University College of Engineering reduce, where possible, the total credit hours required to obtain a given undergraduate degree offered by the College. The proposed curriculum adjustment for the KSU undergraduate degree in Biomedical Engineering reduces the total credit hours for the program from 133 hours to 129 hours. This is accomplished via (a) the removal of one 3-hour Humanities & Social Sciences course and (b) a one-credit-hour reduction in "additional technical electives" as specified for a given emphasis area. This 129-hour curriculum therefore consists of 103 credit hours of required courses plus 26 hours of technical electives.

Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of: The proposed changes do not significantly impact any individual departmental unit.

Biomedical Engineering (BME) (B.S.)	Biomedical Engineering (BME) (B.S.)
Bachelor's degree requirements	Bachelor's degree requirements
Freshman year	Freshman year
Fall semester (17 credit hours)	Fall semester (17 credit hours)
• BME 001 - New Student Assembly **Credits**: (0) • BME 200 - Intro to Biomedical Engg **Credits**: (3) • CHM 210 - Chemistry I **Credits**: (4) • *ENGL 100 - Expository Writing I **Credits**: (3) • MATH 220 - Analytic Geometry and Calculus I **Credits**: (4) • KIN 110 - Intro to Public Health **Credits**: (3) or	• BME 001 - New Student Assembly **Credits**: (0) • BME 200 - Intro to Biomedical Engg **Credits**: (3) • CHM 210 - Chemistry I **Credits**: (4) • *ENGL 100 - Expository Writing I **Credits**: (3) • MATH 220 - Analytic Geometry and Calculus I **Credits**: (4) • KIN 110 - Intro to Public Health **Credits**: (3) or

ECON 110 - Principles of Macroeconomics **Credits:** (3) Spring semester (16 credit hours) • MATH 221 - Analytic Geometry and Calculus II **Credits:** (4) • PHYS 213 - Engineering Physics I **Credits:** (5) • CHM 230 - Chemistry II **Credits:** (4) • Technical Electives **Credits:** (3) ## Sophomore year Fall semester (17 credit hours) • COMM 105 - Public Speaking IA **Credits:** (2) • MATH 240 - Elementary Differential Equations **Credits:** (4) • PHYS 214 - Engineering Physics II **Credits:** (5) • Technical Electives **Credits:** (6) • Spring semester (18 credit hours) • BIOL 198 – Principles of Biology **Credits**:(4) • MATH 222 - Analytic Geometry and Calculus III **Credits:** (4) • CIS 200 - Programming Fundamentals **Credits:** (4) • STAT 510 - Introductory Probability	ECON 110 - Principles of Macroeconomics **Credits:** (3) Spring semester (16 credit hours) • MATH 221 - Analytic Geometry and Calculus II **Credits:** (4) • PHYS 213 - Engineering Physics I **Credits:** (5) • CHM 230 - Chemistry II **Credits:** (4) • Technical Electives **Credits:** (3) ## Sophomore year Fall semester (17 credit hours) • COMM 105 - Public Speaking IA **Credits:** (2) • MATH 240 - Elementary Differential Equations **Credits:** (4) • PHYS 214 - Engineering Physics II **Credits:** (5) • Technical Electives **Credits:** (6) • Spring semester (18 credit hours) • BIOL 198 – Principles of Biology **Credits**:(4) • MATH 222 - Analytic Geometry and Calculus III **Credits:** (4) • CIS 200 - Programming Fundamentals **Credits:** (4) • STAT 510 - Introductory Probability

and Statistics I **Credits:** (3) • Technical Electives **Credits:** (3) ## Junior year Fall semester (15 credit hours) • BIOL 340 – Structure and Function of the Human Body **Credits**: (8) • BME 430 – Biomaterials **Credits**: (3) • ECE 540 - Applied Scientific Computing for Engineers **Credits:** (3) • BME 490 – Undergraduate BME Design Experience I **Credits**: (1) Spring semester (17 credit hours) • CHM 531 – Organic Chemistry I **Credits**: (3) • ECE 512 - Linear Systems **Credits:** (3) • BME 451 – Biomechanics **Credits**: (3) • ENGL 415 - Written Communication for Engineers **Credits:** (3) • BME 491 – Undergraduate BME Design Experience II **Credits**: (2) • Technical Electives **Credits:** (3) ## Senior year Fall semester (~~18~~ credit hours)	and Statistics I **Credits:** (3) • Technical Electives **Credits:** (3) ## Junior year Fall semester (15 credit hours) • BIOL 340 – Structure and Function of the Human Body **Credits**: (8) • BME 430 – Biomaterials **Credits**: (3) • ECE 540 - Applied Scientific Computing for Engineers **Credits:** (3) • BME 490 – Undergraduate BME Design Experience I **Credits**: (1) Spring semester (17 credit hours) • CHM 531 – Organic Chemistry I **Credits**: (3) • ECE 512 - Linear Systems **Credits:** (3) • BME 451 – Biomechanics **Credits**: (3) • ENGL 415 - Written Communication for Engineers **Credits:** (3) • BME 491 – Undergraduate BME Design Experience II **Credits**: (2) • Technical Electives **Credits:** (3) ## Senior year Fall semester (15 credit hours)

• ECE 772 – Theory and Techniques of Bioinstrumentation **Credits**: (2) • ECE 773 – Bioinstrumentation Design Laboratory **Credits**: (1) • ECE 590 - Senior Design Experience I **Credits:** (3) • ***Technical Electives **Credits:** (9) • ~~**Humanities/Social Science Elective **Credits:** (3)~~	• ECE 772 – Theory and Techniques of Bioinstrumentation **Credits**: (2) • ECE 773 – Bioinstrumentation Design Laboratory **Credits**: (1) • ECE 590 - Senior Design Experience I **Credits:** (3) • ***Technical Electives **Credits:** (9)
Spring semester (~~15~~ credit hours)	Spring semester (14 credit hours)
• BME 674 – Medical Imaging **Credits**: (3) • BME 575 – Clinical Systems Engineering **Credits**: (3) • ECE 591 - Senior Design Experience II **Credits:** (3) • ***Technical electives **Credits**: (~~3~~) • **Humanities/Social Science Elective **Credits:** (3)	• BME 674 – Medical Imaging **Credits**: (3) • BME 575 – Clinical Systems Engineering **Credits**: (3) • ECE 591 - Senior Design Experience II **Credits:** (3) • ***Technical electives **Credits**: (2) • **Humanities/Social Science Elective **Credits:** (3)
Notes	Notes
*Students must complete the appropriate prerequisite credits for ENGL 415, but may apply only 3 credit hours of ENGL 415 prerequisite credits towards degree requirements. For the good and benefit of the student and their future employer, the ECE department enforces a C-prerequisite policy for all courses listed by number in the curriculum and for any in-major technical elective course applied toward the degree. A grade of C or better must be earned in all prerequisites to such a course before enrolling in that course.	*Students must complete the appropriate prerequisite credits for ENGL 415, but may apply only 3 credit hours of ENGL 415 prerequisite credits towards degree requirements. For the good and benefit of the student and their future employer, the ECE department enforces a C-prerequisite policy for all courses listed by number in the curriculum and for any in-major technical elective course applied toward the degree. A grade of C or better must be earned in all prerequisites to such a course before enrolling in that course.

Humanities and Social Science electives are to be selected from the list of courses approved by the College of Engineering. Students should select these courses as needed to complete the requirements of the K-State 8 General Education program. ***Technical electives must be selected from the list of accepted courses. *** No more than twelve (12) credit hours of courses in electrical engineering, computer engineering, or biomedical engineering may be transferred to Kansas State University for credit toward a bachelor's degree in biomedical engineering. Further, those courses selected for transfer credit must be equivalent to courses in the list below and must be such that the prerequisites for the listed course are also satisfied. Any courses transferred must be taken from ABET accredited programs: ECE 210, ECE 241, ECE 410, ECE 511, ECE 512, ECE 519, ECE 590/591, ECE 772, BME 200, BME 430, BME 490/491, ~~BME 551~~, BME 575, and BME 674. Students participating in exchange programs or transferring in from outside the United States may request waivers of this policy. Waivers must be obtained in advance of the exchange semester. NOTE: K-State 8 General Education Requirements **IMPORTANT NOTE: Students must meet the requirements of the K-State 8 General Education Program.** Total credit hours required for graduation (133)	**Humanities and Social Science electives are to be selected from the list of courses approved by the College of Engineering. Students should select these courses as needed to complete the requirements of the K-State 8 General Education program. ***Technical electives must be selected from the list of accepted courses. ***** No more than twelve (12) credit hours of courses in electrical engineering, computer engineering, or biomedical engineering may be transferred to Kansas State University for credit toward a bachelor's degree in biomedical engineering. Further, those courses selected for transfer credit must be equivalent to courses in the list below and must be such that the prerequisites for the listed course are also satisfied. Any courses transferred must be taken from ABET accredited programs: ECE 210, ECE 241, ECE 410, ECE 511, ECE 512, ECE 519, ECE 590/591, ECE 772, BME 200, BME 430, BME 451, BME 490/491, BME 575, and BME 674. Students participating in exchange programs or transferring in from outside the United States may request waivers of this policy. Waivers must be obtained in advance of the exchange semester. NOTE: K-State 8 General Education Requirements **IMPORTANT NOTE: Students must meet the requirements of the K-State 8 General Education Program.** Total credit hours required for graduation (129)

Computer Science (B.S.)

Rationale: The way ENGL 516 is currently being taught, ENGL 415 is more appropriate for most of our students; however, for students planning to pursue a graduate degree in Computer Science, ENGL 516 is more appropriate. We would therefore like to give them the opportunity to choose the course that best fits their needs. Also some of our recent graduates have suggested that various other MATH courses might be as appropriate as MATH 551. Others have suggested that some of the natural science requirements might be replaced by mathematics. Our accreditation criteria require:

> One year of science and mathematics:
>
> 1. Mathematics: At least one half year that must include discrete mathematics. The additional mathematics might consist of courses in areas such as calculus, linear algebra, numerical methods, probability, statistics, number theory, geometry, or symbolic logic.
>
> 2. Science: A science component that develops an understanding of the scientific method and provides students with an opportunity to experience this mode of inquiry in courses for science or engineering majors that provide some exposure to laboratory work.

We are therefore proposing to give students more flexibility in their math and science courses by renaming our natural science electives as “math/science electives”, and replacing MATH 551 with three additional hours of math/science electives. We will continue to maintain internally a list of approved courses. In particular, we will continue to require one of four 2-semester lab science sequences (BIOL 198 and 201, CHM 210 and 230, PHYS 213 and 214, or PHYS 223 and 224) to ensure that students take lab courses for science majors. We will also require that at least one of these electives be an appropriate MATH course (to complete the half year of mathematics), and that the remaining math/science electives be chosen from a list of natural science courses for science or engineering majors. Note that the above curriculum still requires 14 hours of specific mathematics courses that include discrete mathematics (MATH 220, MATH 221, MATH 510, and STAT 510). Finally, we are removing 4 hours of unrestricted electives to bring the total number of credit hours to 120. (The change in title to CIS 308 reflects a recently-approved expedited course change.)

Impact: The following departments outside the College of Engineering will potentially have enrollments in some of their courses impacted by these changes:

- English: Prof. Karin Westman was contacted by email on 1/25/2018.

- Mathematics: Prof. Andrew Bennett was contacted by email on 1/25/2018.
- Biology: Prof. Brian Spooner was contacted by email on 1/26/2018.
- Chemistry: Prof. Daniel Higgins was contacted by email on 1/26/2018.
- Physics: Prof. Brett DePaola was contacted by email on 1/26/2018.
- Statistics: Prof. Gary Gadbury was contacted by email on 1/26/2018. The message was forwarded to Prof. Jim Neill the same day.
- Biochemistry and Molecular Biophysics: Prof. Phillip Klebba was contacted by email on 1/26/2018.
- Geology: Prof. Pamela Kempton was contacted by email on 1/26/2018.

Effective: ~~Fall 2018~~ Spring 2019

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13068

From:	**To:**
Bachelor's degree requirements	**Bachelor's degree requirements**
Freshman year	**Freshman year**
Fall semester (15-16 credit hours)	*Fall semester (15-16 credit hours)*
• Humanities/social science elective (first of five) **Credits:** 3 • CIS 015 - Undergraduate Seminar **Credits:** 0 • CIS 115 - Introduction to Computing Science **Credits:** 3 • COMM 105 - Public Speaking IA **Credits:** 2 • or • COMM 106 - Public Speaking I **Credits:** 3 • ENGL 100 - Expository Writing I **Credits:** 3 • MATH 220 - Analytic Geometry and Calculus I **Credits:** 4	• Humanities/social science elective (first of five) **Credits:** 3 • CIS 015 - Undergraduate Seminar **Credits:** 0 • CIS 115 - Introduction to Computing Science **Credits:** 3 • COMM 105 - Public Speaking IA **Credits:** 2 • or • COMM 106 - Public Speaking I **Credits:** 3 • ENGL 100 - Expository Writing I **Credits:** 3 • MATH 220 - Analytic Geometry and Calculus I **Credits:** 4

Spring semester (15 credit hours)

- ~~Natural~~ science elective with laboratory (first of ~~four~~) **Credits:** 4
- CIS 200 – Programming Fundamentals **Credits:** 4
- ECE 241 – Introduction to Computer Engineering **Credits:** 3
- MATH 221 – Analytic Geometry and Calculus II **Credits:** 4

Sophomore year

Fall semester (15 credit hours)

- Humanities/social science elective (second of five) **Credits:** 3
- CIS 300 – Data and Program Structures **Credits:** 3
- CIS 301 – Logical Foundations of Programming **Credits:** 3
- ECON 110 – Principles of Macroeconomics **Credits:** 3
- ENGL 200 – Expository Writing II **Credits:** 3

Spring semester (~~16~~ credit hours)

- Humanities/social science elective (third of five) **Credits:** 3
- ~~Natural~~ science elective (second of ~~four~~) **Credits:** 3
- *Communication elective **Credits:** 3
- ~~CIS 308 – C/C++ Language Laboratory **Credits:** 1~~
- CIS 501 – Software Architecture and Design **Credits:** 3
- MATH 510 – Discrete Mathematics **Credits:** 3

Spring semester (15 credit hours)

- Math/science elective with laboratory (first of five) **Credits:** 4
- CIS 200 – Programming Fundamentals **Credits:** 4
- ECE 241 – Introduction to Computer Engineering **Credits:** 3
- MATH 221 – Analytic Geometry and Calculus II **Credits:** 4

Sophomore year

Fall semester (15 credit hours)

- Humanities/social science elective (second of five) **Credits:** 3
- CIS 300 – Data and Program Structures **Credits:** 3
- CIS 301 – Logical Foundations of Programming **Credits:** 3
- ECON 110 – Principles of Macroeconomics **Credits:** 3
- ENGL 200 – Expository Writing II **Credits:** 3

Spring semester (15 credit hours)

- Humanities/social science elective (third of five) **Credits:** 3
- Math/science elective (second of five) **Credits:** 3
- *Communication elective **Credits:** 3
- CIS 501 – Software Architecture and Design **Credits:** 3
- MATH 510 – Discrete Mathematics **Credits:** 3

Junior year

Fall semester (~~16~~ credit hours)

- Humanities/social science elective (fourth of five) **Credits:** 3
- ~~Natural~~ science elective (third of ~~four~~) **Credits:** ~~3~~
- Unrestricted elective **Credits:** ~~6~~
- CIS 415 – Ethics and Computing Technology **Credits:** 1
- CIS 560 – Database System Concepts **Credits:** 3

Spring semester (15 credit hours)

- Unrestricted elective **Credits:** 3
- CIS 450 – Computer Architecture and Operations **Credits:** 3
- CIS 575 – Introduction to Algorithm Analysis **Credits:** 3
- ENGL 516 – Written Communication for the Sciences **Credits:** 3
- STAT 510 – Introductory Probability and Statistics I **Credits:** 3

Senior year

Fall semester (~~15–16~~ credit hours)

- Technical elective (first and second of four) **Credits:** 6
- CIS 505 – Introduction to Programming Languages **Credits:** 3
- Unrestricted elective **Credits:** ~~3–4~~

Junior year

Fall semester (15 credit hours)

- Humanities/social science elective (fourth of five) **Credits:** 3
- Math/science elective with laboratory (third of five) **Credits:** 4
- Unrestricted elective **Credits:** 3
- CIS 308 – C Language Laboratory **Credits:** 1
- CIS 415 – Ethics and Computing Technology **Credits:** 1
- CIS 560 – Database System Concepts **Credits:** 3

Spring semester (15 credit hours)

- Unrestricted elective **Credits:** 3
- CIS 450 – Computer Architecture and Operations **Credits:** 3
- CIS 575 – Introduction to Algorithm Analysis **Credits:** 3
- ENGL 415 – Written Communication for Engineers **Credits:** 3
- or
- ENGL 516 – Written Communication for the Sciences **Credits:** 3
- STAT 510 – Introductory Probability and Statistics I **Credits:** 3

Senior year

Fall semester (14–15 credit hours)

- Technical elective (first and second of four) **Credits:** 6
- CIS 505 – Introduction to Programming Languages **Credits:** 3

- ~~MATH 551 – Applied Matrix Theory~~ **Credits:** 3

Spring semester (~~16~~ credit hours)

- Technical elective (third and fourth of four) **Credits:** 6
- ~~Natural~~ science elective ~~with laboratory~~ (~~fourth of four~~) **Credits:** ~~4~~
- Unrestricted elective **Credits:** 3
- Humanities/social science elective (fifth of five) **Credits:** 3

Notes

A grade of C or better is required for all graded courses listed by specific course number above.

All students new to the CS department must complete CIS 015.

~~Natural science courses~~ must have departmental approval.

Humanities/social science electives must be taken from the list approved by the College of Engineering.

*Communications Elective **Credits:** (3) The Communications Elective must be chosen from:

- COMM 322 – Interpersonal Communication **Credits:** 3
- COMM 326 – Small Group Discussion Methods **Credits:** 3
- MANGT 420 – Principles of Management **Credits:** 3
- THTRE 261 – Fundamentals of Acting **Credits:** 3
- THTRE 265 – Fundamentals of Improvisation I, II **Credits:** 3

- Unrestricted elective **Credits:** 2–3
- Math/science elective (fourth of five) **Credits:** 3

Spring semester (15 credit hours)

- Technical elective (third and fourth of four) **Credits:** 6
- Math/science elective (fifth of five) **Credits:** 3
- Unrestricted elective **Credits:** 3
- Humanities/social science elective (fifth of five) **Credits:** 3

Notes

A grade of C or better is required for all graded courses listed by specific course number above.

All students new to the CS department must complete CIS 015.

Math/science electives must have departmental approval.

Humanities/social science electives must be taken from the list approved by the College of Engineering.

*Communications Elective **Credits:** (3) The Communications Elective must be chosen from:

- COMM 322 – Interpersonal Communication **Credits:** 3
- COMM 326 – Small Group Discussion Methods **Credits:** 3
- MANGT 420 – Principles of Management **Credits:** 3
- THTRE 261 – Fundamentals of Acting **Credits:** 3
- THTRE 265 – Fundamentals of Improvisation I, II **Credits:** 3

Technical electives must be comprised of the following:	Technical electives must be comprised of the following:
• C or better in either CIS 520- Operating Systems I or CIS 625- Concurrent Software Systems. • A capstone experience consisting of a C or better in either CIS 598- Computer Science Project or the two-semester course consisting of CIS 642-Software Engineering Project I and CIS 643-Software Engineering Project II. • Additional 500-level or higher CIS courses or other approved computing-related courses to bring the total number of technical elective credits to 12.	• C or better in either CIS 520- Operating Systems I or CIS 625- Concurrent Software Systems. • A capstone experience consisting of a C or better in either CIS 598- Computer Science Project or the two-semester course consisting of CIS 642-Software Engineering Project I and CIS 643-Software Engineering Project II. • Additional 500-level or higher CIS courses or other approved computing-related courses to bring the total number of technical elective credits to 12.
NOTE: K-State 8 General Education Requirements	**NOTE: K-State 8 General Education Requirements**
For additional information about the University General Education program, check the requirements specified by the College of Engineering.	For additional information about the University General Education program, check the requirements specified by the College of Engineering.
Total hours required for graduation (~~124~~ credit hours)	**Total hours required for graduation (120 credit hours)**

The following can be found in the additional file in Curriculog:

Math / Sciences Electives

- A total of 17 credit hours selected from courses listed below
- One of the following two-course sequences must be included:
    - BIOL 198 Principles of Biology and BIOL 201 Organismic Biology
    - CHM 210 Chemistry I and CHM 230 Chemistry II
    - PHYS 213 Engineering Physics I and PHYS 214 Engineering Physics II

    - PHYS 223 Physics I, Mechanics and Thermodynamics, and PHYS 224 Physics II, Electromagnetism and Sound
- At least one of the following mathematics courses must be included:
    - MATH 222 Analytic Geometry and Calculus III
    - MATH 340 Elementary Differential Equations
    - MATH 506 Introduction to Number Theory
    - MATH 511 Introduction to Algebraic Systems
    - MATH 512 Introduction to Modern Algebra
    - MATH 515 Introduction to Linear Algebra
    - MATH 551 Applied Matrix Theory
    - MATH 572 Foundations of Geometry
    - MATH 633 Advanced Calculus I
    - STAT 511 Introductory Probability and Statistics II
- Any remaining must come from the following science courses:
    - BIOCH 265 Introductory Organic and Biochemistry
    - BIOCH 521 General Biochemistry
    - BIOL 198 Principles of Biology
    - BIOL 201 Organismic Biology
    - BIOL 450 Modern Genetics
    - BIOL 455 General Microbiology
    - CHM 210 Chemistry I
    - CHM 230 Chemistry II
    - One of CHM 350 General Organic Chemistry or CHM 531 Organic Chemistry I
    - CHM 371 Chemical Analysis
    - CHM 550 Organic Chemistry II
    - GEOL 100 Earth in Action
    - GEOL 102 Earth Through Time
    - GEOL 103 Geology Laboratory
    - GEOL 502 Mineralogy
    - One of PHYS 113 General Physics I, PHYS 213 Engineering Physics I, or PHYS 223 Physics I, Mechanics, and Thermodynamics
    - One of PHYS 114 General Physics II, PHYS 214 Engineering Physics II, or PHYS 224 Physics II, Electromagnetism, and Sound
    - PHYS 325 Physics III, Relativity, and Quantum Physics

Industrial Engineering (IE) (B.S.)

Rationale: Four main changes are listed: 1. In light the regent requirement to drop the total number of credit hours for graduation, we propose to drop one of the humanity or social science courses. Currently the BS IE program listed three H & SS courses. This proposal will drop the listing in the first semester

freshmen year. Then COMM105 is moved from the second semester to the first semester freshman year. The total number of credit hours for graduation is dropped to 124. 2. Econ 120 can be used to substitute for Econ 110. 3. LEAD 350 can be used to substitute for MANGT 420 and 4. the list for engineering elective is revised.

Impact (i.e. if this impacts another unit): We have emailed various H&SS departments about the dropping and the LEAD program about the inclusion of LEAD 360.

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13066&returnto=7025

FROM		**To:**	
FRESHMAN First Semester Courses	**HRS**	**FRESHMAN First Semester Courses**	**HRS**
IMSE 201 Introduction to Industrial Engineering	3	IMSE 201 Introduction to Industrial Engineering	3
MATH 220 Anal. Geom. & Calc I		MATH 220 Anal. Geom. & Calc I	
CHM 210 Chemistry I	4	CHM 210 Chemistry I	4
ENGL 100 Expository Writing I*	4	ENGL 100 Expository Writing I*	4
~~Humanities or Social Science~~	3	COMM 105 Public Speaking 1A	3
IMSE 015 Engineering Assembly	3	IMSE 015 Engineering Assembly	2
TOTAL	0	**TOTAL**	0
	~~17~~		**16**
FRESHMAN Second Semester Courses	**HRS**	**FRESHMAN Second Semester Courses**	**HRS**
IMSE 250 Intro. to Manufacturing Processes	2	IMSE 250 Intro. to Manufacturing Processes	2
IMSE 251 Intro. to Manufacturing Processes Lab	1	IMSE 251 Intro. to Manufacturing Processes Lab	1
MATH 221 Anal. Geom. & Calc. II	4	MATH 221 Anal. Geom. & Calc. II	4
ECON 120 Principles of Macroeconomics	3	ECON 110 (or 120) Principles of Macroeconomics (Microeconomics)	3
Humanities or Social Science	3	Humanities or Social Science	
ME 212 Engineering Graphics	2	ME 212 Engineering Graphics	3
~~COMM 105 Public Speaking 1A~~	2	IMSE 015 Engineering Assembly	2
IMSE 015 Engineering Assembly	0	**TOTAL**	0
TOTAL	~~17~~		**15**
SOPHOMORE First Semester Courses	**HRS**	**SOPHOMORE First Semester Courses**	**HRS**
MATH 222 Anal. Geom. & Calc. III	4	MATH 222 Anal. Geom. & Calc. III	4
STAT 510 Introduction to Probability & Statistics I	3	STAT 510 Introduction to Probability & Statistics I	3
PHYS 213 Engineering Physics I	5	PHYS 213 Engineering Physics I	5
ACCTG 231 Accounting for Business Operations	3	ACCTG 231 Accounting for Business Operations	3
IMSE 015 Engineering Assembly	0	IMSE 015 Engineering Assembly	0
TOTAL	**15**	**TOTAL**	**15**
SOPHOMORE Second Semester Courses	**HRS**	**SOPHOMORE Second Semester Courses**	**HRS**
MATH 551 Applied Matrix Theory	3	MATH 551 Applied Matrix Theory	3
STAT 511 Introduction to Probability & Statistics II	3	STAT 511 Introduction to Probability & Statistics II	3
PHYS 214 Engineering Physics II	5	PHYS 214 Engineering Physics II	5
IMSE 530 Engineering Economic Analysis	2	IMSE 530 Engineering Economic Analysis	2
IMSE 532 Industrial Project Evaluation	1	IMSE 532 Industrial Project Evaluation	1
Humanity or Social Science	3	Humanity or Social Science	3
IMSE 015 Engineering Assembly	0	IMSE 015 Engineering Assembly	0
TOTAL	**17**	**TOTAL**	**17**
JUNIOR First Semester Courses	**HRS**	**JUNIOR First Semester Courses**	**HRS**
IMSE 560 Operations Research I	3	IMSE 560 Operations Research I	3
IMSE 541 Statistical Quality Control	3	IMSE 541 Statistical Quality Control	3
IMSE 623 Industrial Ergonomics	3	IMSE 623 Industrial Ergonomics	3
Computer Programming Elective	3	Computer Programming Elective	3
Engineering Elective	3	Engineering Elective	3
IMSE 015 Engineering Assembly	0	IMSE 015 Engineering Assembly	0
TOTAL	**15**	**TOTAL**	**15**
JUNIOR Second Semester Courses	**HRS**	**JUNIOR Second Semester Courses**	**HRS**
IMSE 660 Operations Research II	3	IMSE 660 Operations Research II	3
IMSE 555 Industrial Facility Layout and Design	3	IMSE 555 Industrial Facility Layout and Design	3
MNGT 420 Management Concepts	3	MNGT 420 Management Concepts or LEAD	3

	Engineering Elective	3		350 Culture and Context in Leadership	
ENGL	415 Written Communication for Engineers	3		Engineering Elective	3
IMSE	050 Industrial Plant Studies	0	ENGL	415 Written Communication for Engineers	3
IMSE	015 Engineering Assembly	0	IMSE	050 Industrial Plant Studies	0
TOTAL		**15**	IMSE	015 Engineering Assembly	0
			TOTAL		**15**
SENIOR Second Semester Courses		**HRS**	**SENIOR Second Semester Courses**		**HRS**
IMSE	580 Manufacturing System Design & Analysis	4	IMSE	580 Manufacturing System Design & Analysis	4
IMSE	685 Manufacturing Information Systems	3	IMSE	685 Manufacturing Information Systems	3
	IMSE Elective	3		IMSE Elective	3
	Professional Elective	3		Professional Elective	3
	Professional Elective	3		Professional Elective	3
IMSE	015 Engineering Assembly	0	IMSE	015 Engineering Assembly	0
TOTAL		**16**	**TOTAL**		**16**
Number of Hours Required for Graduation is		**127**	Number of Hours Required for Graduation is		**124**

IMSE CURRICULUM NOTES:

Computer Programming Elective: The computer programming elective consists of 3 hours taken from CIS 200, CIS 209 or ME 400.

Engineering Electives: The 9 hours of basic engineering credit may not include more than 6 hours from a single department and the 9 hours must be selected from the following courses. Note, a student planning to take the FE exam is advised to take their 9 hours from classes with an *.
BAE 345; CE 333, 530* (at most one of 333 and 530) and 533; CHE ~~350,~~ 354*, 355*, 356*, 520 and 521; ECE 410, 511, 519* and 571; ME 512*, 513, 571 ~~and 573~~.

Professional Electives: The 9 credit hours of professional electives are designed so that the student may specialize in an area of interest. Any of the following classes may count toward the professional elective requirement. Any IMSE class; any engineering class above 300 level; any CIS class above 200 level; MATH 240 and any Mathematics class above 500 level except MATH 570 and 591; any Statistics class above 500 level except STAT 702, 703, 706 and 710; BIOL 198, BIOL 201, CHEM 230; FINAN 450, 510, 520, 520, 643, and 654; ACCTG 241, 331, 342 and 433; ECON 510, 520, 530, and 540; AGEC 680, 750.

IMSE Electives: The IMSE electives must be selected from the IMSE department. Each class must also be at least 3 credit hours.

Substitutions: ECON 110 can substitute for ECON 120. IMSE 501 can substitute for MGMT 420; IMSE 591 and IMSE 592 can substitute for IMSE 580. Concurrent or prerequisite requirement for IMSE 591 is 24 credit hours of IMSE courses.

Humanities and Social Science electives: H&SS are to be selected from the college of engineering H&SS list.

K-State 8: The courses required from a BSIE degree satisfy five of the K-State 8 areas. The student must fulfill the aesthetic experience, global perspectives, and historical perspectives tags. Most students will fill these tags with their humanities, social science or

IMSE CURRICULUM NOTES:

Computer Programming Elective: The computer programming elective consists of 3 hours taken from CIS 200, CIS 209 or ME 400.

Engineering Electives: The 9 hours of basic engineering credit may not include more than 6 hours from a single department and the 9 hours must be selected from the following courses. Note, a student planning to take the FE exam is advised to take their 9 hours from classes with an *.
BAE 345; CE 333, 530* (at most one of 333 and 530) and 533; CHE 354*, 355*, 356*, 520 and 521; ECE 410, 511, 519* and 571; ME 512*, 513, 571; IMSE 562.

Professional Electives: The 9 credit hours of professional electives are designed so that the student may specialize in an area of interest. Any of the following classes may count toward the professional elective requirement. Any IMSE class; any engineering class above 300 level; any CIS class above 200 level; MATH 240 and any Mathematics class above 500 level except MATH 570 and 591; any Statistics class above 500 level except STAT 702, 703, 706 and 710; BIOL 198, BIOL 201, CHEM 230; FINAN 450, 510, 520, 520, 643, and 654; ACCTG 241, 331, 342 and 433; ECON 510, 520, 530, and 540; AGEC 680, 750.

IMSE Electives: The IMSE electives must be selected from the IMSE department. Each class must also be at least 3 credit hours.

Substitutions: ECON 120 can substitute for ECON 110. LEAD 350 can substitute for MGMT 420; IMSE 591 and IMSE 592 can substitute for IMSE 580. Concurrent or prerequisite requirement for IMSE 591 is 24 credit hours of IMSE courses.

Humanities and Social Science electives: H&SS are to be selected from the college of engineering H&SS list.

K-State 8: The courses required from a BSIE degree satisfy five of the K-State 8 areas. The student must fulfill the aesthetic experience, global perspectives, and historical perspectives tags. Most students will fill these

professional electives. ECON 110 fulfills the global perspective area. For additional information about the General Education K-State 8 program, check the requirements specified by the College of Engineering. **IMSE Graduation Criterion:** At most 6 credit hours of IMSE 500+ courses that earned a D may be applied to a student's B.S.I.E. graduation requirements. **IMSE Course Retake Criterion:** Any IMSE course being taken for a third time in any five-year period may not be used to fulfill a student's B.S.I.E. graduation requirements. **IMSE Assembly Requirement:** Each semester a student must enroll in IMSE 015 unless he/she is a concurrent B.S./M.S.I.E. student in which case he/she must enroll in either IMSE 015 or IMSE 892. * Prerequisite for ENGL 415 is a "B" or better in ENGL 100. ENGL 200 must be taken if ENGL 100's grade ≤ "C".		tags with their humanities, social science or professional electives. ECON 110 fulfills the global perspective area. For additional information about the General Education K-State 8 program, check the requirements specified by the College of Engineering. **IMSE Graduation Criterion:** At most 6 credit hours of IMSE 500+ courses that earned a D may be applied to a student's B.S.I.E. graduation requirements. **IMSE Course Retake Criterion:** Any IMSE course being taken for a third time in any five-year period may not be used to fulfill a student's B.S.I.E. graduation requirements. **IMSE Assembly Requirement:** Each semester a student must enroll in IMSE 015 unless he/she is a concurrent B.S./M.S.I.E. student in which case he/she must enroll in either IMSE 015 or IMSE 892. * Prerequisite for ENGL 415 is a "B" or better in ENGL 100. ENGL 200 must be taken if ENGL 100's grade ≤ "C".	