

Attachment 3

Academic Affairs

Consent Agenda Supplemental Information - Curriculum Proposals

Faculty Senate Review – May 14, 2019 Meeting

In order by College, not by the Curriculum Agenda

<https://kstate.curriculog.com/agenda:719/form>

Engineering

Computer Science B.S.

http://catalog.k-state.edu/preview_program.php?catoid=42&poid=13859

Rationale: The number of credits for CIS 415 is being changed from 1 to 3, and its title is being changed. To accommodate the change in credit hours, the number of credits of Humanities / Social Science Electives is being changed from 15 to 12, and the number of unrestricted electives is being increased by 1 credit. The additional coverage of ethics in CIS 415 will serve our students' needs for a broad education as a 3-credit Humanities / Social Science Elective currently does. The only other changes involve moving a few courses to different semesters.

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 removal of a Humanities / Social Science Elective impacts the College of Arts and Sciences. As the Humanities / Social Science Electives are mainly in the College of Arts and Sciences, reducing the number of hours required impacts that college. Prof. Louise Benjamin, Associate Dean for Academic Affairs in the College of Arts and Sciences, was contacted by email on Feb. 7, 2019.

Freshman year	Freshman year
<hr/> Fall semester (15-16 credit hours) <hr/> <ul style="list-style-type: none">• 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: 2or• 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)	<hr/> Fall semester (15-16 credit hours) <hr/> <ul style="list-style-type: none">• CIS 015 - Undergraduate Seminar Credits: 0• CIS 115 - Introduction to Computing Science Credits: 3• COMM 105 - Public Speaking IA Credits: 2or• COMM 106 - Public Speaking I Credits: 3• <u>ECON 110 – Principles of Macroeconomics Credits: 3</u>• ENGL 100 - Expository Writing I Credits: 3• MATH 220 - Analytic Geometry and Calculus I Credits: 4 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 400 Object-Oriented Design, Implementation, and Testing **Credits: 3**
- MATH 510 - Discrete Mathematics **Credits: 3**

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**~~
- CIS 501 Software Architecture and Design **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**

- 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 (**13** credit hours)

- Math/Science elective with laboratory (second of five) **Credits: 4**
- CIS 300 - Data and Program Structures **Credits: 3**
- CIS 301 - Logical Foundations of Programming **Credits: 3**
- ENGL 200 - Expository Writing II **Credits: 3**

Spring semester (15 credit hours)

- Humanities/social science elective (first of four) **Credits: 3**
- Math/Science elective (third of five) **Credits: 3**
- *Communication elective **Credits: 3**
- CIS 400 Object-Oriented Design, Implementation, and Testing **Credits: 3**
- MATH 510 - Discrete Mathematics **Credits: 3**

Junior year

Fall semester (**16** credit hours)

- Unrestricted elective **Credits: 3**
- Humanities/social science elective (second and third of four) **Credits: 6**
- CIS 501 Software Architecture and Design **Credits: 3**
- CIS 308 - C Language Laboratory **Credits: 1**
- CIS 415 - Ethics and Conduct for Computing Professionals **Credits: 3**

Spring semester (15 credit hours)

- CIS 450 - Computer Architecture and Operations **Credits: 3**
- CIS 560 - Database System Concepts **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**
- 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 323 - Nonverbal 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**

- 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 (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**
- 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 (fourth of four) **Credits: 3**

Notes

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- 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:

- 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.

Entrepreneurship Option:

For this option, the 12 credits of technical electives must be comprised of the following:

- C or better in either CIS 520-Operating Systems I or CIS 625-Concurrent Software Systems.
- C or better in CIS 596-Entrepreneurial Computer Science Project.
- ENTRP 340-Introduction to Entrepreneurship
- ENTRP 350-Technology and Innovation Management (to be taken the semester immediately following CIS 598)

In addition, the unrestricted electives must be satisfied by 9 credits taken from the following:

- ENTRP 466 Digital Business
- ENTRP 520 Social Entrepreneurship
- ENTRP 540 Entrepreneurial Consulting
- ENTRP 497 Topics in Entrepreneurship
- FINAN 561 Finance for Entrepreneurs
- MANGT 390 Business Law
- MANGT 520 Organization Behavior
- MANGT 531 Human Resources Management

Cybersecurity Option:

For this option, the 12 credits of technical electives must be comprised of the following:

- C or better in either CIS 520-Operating Systems I or CIS 625-Concurrent Software Systems.
- C or better in CIS 599-Cybersecurity Project.
- CIS 551 Fundamentals of Computer and Information Security.
- CIS 553 Fundamentals of Cryptography.

- **THTRE 265 - Fundamentals of Improvisation I, II Credits: 3**

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.
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- ENTRP 340-Introduction to Entrepreneurship
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In addition, the unrestricted electives must be satisfied by 9 credits taken from the following:

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- ENTRP 540 Entrepreneurial Consulting
- ENTRP 497 Topics in Entrepreneurship
- FINAN 561 Finance for Entrepreneurs
- MANGT 390 Business Law
- MANGT 520 Organization Behavior
- MANGT 531 Human Resources Management

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- CIS 553 Fundamentals of Cryptography.

In addition, 6 of the 15 hours of Humanities and Social Science electives must be:

- SOCIO 211-Introduction to Sociology.

In addition, 6 of the 15 hours of Humanities and Social Science electives must be:

- SOCIO 211-Introduction to Sociology.
- SOCIO 550-Technocrime, Security, and Society.

Finally, the unrestricted electives must include 2 of the following:

- CIS 525 Introduction to Computer Networks.
- CIS 655 Security and Reliability of Computing Systems.
- CIS 755 Systems Security.

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](#).

Total hours required for graduation (120 credit hours)

- SOCIO 550-Technocrime, Security, and Society.

Finally, the unrestricted electives must include 2 of the following:

- CIS 525 Introduction to Computer Networks.
- CIS 655 Security and Reliability of Computing Systems.
- CIS 755 Systems Security.

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](#).

Total hours required for graduation (120 credit hours)