

SUBCOMMITTEE A – AGENDA

Via Zoom
February 17, 2022
1:30 p.m.

PART I – NEW ACADEMIC PROGRAMS AND PROGRAM CHANGES

COLLEGE OF ENGINEERING

1. Request to change the requirements in the **Bachelor of Science** degree in **Chemical Engineering** in the Department of Chemical Engineering and Materials Science.

The concentrations in the Bachelor of Science degree in Chemical Engineering are noted on the student's academic record when the requirements for the degree have been completed.

- a. Under the heading **Requirements for the Bachelor of Science Degree in Chemical Engineering** make the following changes:

- (1) In the **Concentrations in Chemical Engineering** make the following changes:

- (a) Under the heading **Environmental** delete the following courses from the elective listing:

EEM	255	Ecological Economics	3
EEM	320	Environmental Economics	3
EEM	405	Corporate Environmental Management (W)	3

Add the following courses to the elective listing:

AFRE	265	Ecological Economics	3
AFRE	360	Environmental Economics	3
AFRE	465	Corporate Environmental Management (W)	3

Effective Fall 2022.

2. Request to change the requirements in the **Bachelor of Science** degree in **Materials Science and Engineering** in the Department of Chemical Engineering and Materials Science.

The concentrations in the Bachelor of Science degree in Materials Science and Engineering are noted on the student's academic record when the requirements for the degree have been completed.

- a. Under the heading **Concentrations in Materials Science and Engineering** make the following changes:

- (1) Under **Biomedical Materials Engineering** replace the entire entry with the following:

To gain interdisciplinary skills in human biology and earn a Bachelor of Science degree in Materials Science and Engineering with a biomedical materials engineering concentration, students must complete requirement 3. a. above and the following (25 credits):

- All of the following courses (12 credits):

ANTR	350	Human Gross Anatomy for Pre-Health Professionals	3
CEM	251	Organic Chemistry I	3
ME	495	Tissue Mechanics	3
MSE	425	Biomaterials and Biocompatibility	3
- One of the following courses (4 credits):

PSL	250	Introduction to Physiology	4
PSL	310	Physiology for Pre-Health Professionals	4
- Two of the following courses (6 credits):

ME	477	Manufacturing Processes	3
MSE	474	Ceramics and Refractory Materials	3
MSE	460	Electronic Structure and Bonding in Materials and Devices	3
MSE	465	Design and Application of Engineering Materials	3

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|----|--|-----|--|---|
| | MSE | 476 | Physical Metallurgy of Ferrous and Aluminum Alloys | 3 |
| 4. | At least 3 credits from a list of approved technical electives | | | 3 |

- (2) Under **Polymeric Engineering** replace the entire entry with the following:

To gain interdisciplinary skills to facilitate interactions with chemical engineers and earn a Bachelor of Science degree in Materials Science and Engineering with a polymeric engineering concentration, students must complete requirement 3. a. above and the following (22 credits):

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|----|--|-----|--|---|
| 1. | All of the following courses (19 credits): | | | |
| | CE | 321 | Introduction to Fluid Mechanics | 4 |
| | CEM | 251 | Organic Chemistry I | 3 |
| | CEM | 252 | Organic Chemistry II | 3 |
| | CHE | 472 | Composite Materials Processing | 3 |
| | CHE | 473 | Chemical Engineering Principles in Polymers
and Materials Systems | 3 |
| | MSE | 426 | Introduction to Composite Materials | 3 |
| 2. | Complete at least 3 credits in courses selected from a list of approved technical electives available from the Department of Chemical Engineering and Materials Science. | | | |

Effective Fall 2022.

COLLEGE OF HUMAN MEDICINE

1. Request to change the requirements for the **Professional Program in Human Medicine** leading to the **Doctor of Medicine** (M.D.) degree. The University Committee on Graduate Studies (UCGS) will consider this request at its February 21, 2022 meeting.
 - a. Under the heading **PROGRAM IN HUMAN MEDICINE** make the following changes:
 - (1) Under the heading **Late Clinical Experience** change '20 weeks' to '18 weeks'.
 - (2) Under the heading **Requirements for the Doctor of Medicine Degree** in item 1., change the following:
 - (a) Delete the following courses:

HM	651	Advanced Skills and Knowledge in Medical School I	2
HM	652	Advanced Skills and Knowledge in Medical School II	2
HM	653	Advanced Skills and Knowledge in Medical School III	2
HM	654	Advanced Skills and Knowledge in Medical School IV	2
HM	655	Advanced Skills and Knowledge in Medical School V	2
MED	641	Internal Medicine Clerkship in the Late Clinical Experience	6
 - Add the following courses:

HM	651	Advanced Skills and Knowledge in Medical School I	3
HM	652	Advanced Skills and Knowledge in Medical School II	3
HM	653	Advanced Skills and Knowledge in Medical School III	3
HM	654	Advanced Skills and Knowledge in Medical School IV	3
HM	655	Advanced Skills and Knowledge in Medical School V	3
MED	641	Internal Medicine Clerkship in the Late Clinical Experience	9
 - (b) Change the total credits for item 1. from '132' to '140'.
 - (c) In item 4., change '20' weeks to '18' weeks.
 - (d) In item 4., delete the following course:

Effective Fall 2022.

COLLEGE OF NATURAL SCIENCE

1. Request to change the requirements for the **Bachelor of Science** degree in **Biomedical Laboratory Science** in the Biomedical Laboratory Diagnostics Program.

The concentrations in the Bachelor of Science degree in Biomedical Laboratory Science are noted on the student's academic record when the requirements for the degree have been completed.

- a. Under the heading **Requirements for the Bachelor of Science Degree in Biomedical Laboratory Science** make the following changes:

- (1) Change item 3. c. to 'One of the following concentrations'.
(2) In item 3. c. delete the following concentrations:

Immunology
Molecular Diagnostics
Minor in Information Technology

- (3) In item 3. c. under the **Medical Microbiology** concentration, add the following course under item (2):

BLD 461 Advanced Biomedical Technologies 3

- (4) In item 3. c., add the following concentration:

Advanced Biomedical Technologies (11 or 12 credits):

- (1) All of the following courses (8 credits):
BLD 461 Advanced Biomedical Technologies 3
BLD 461L Advanced Biomedical Technologies Laboratory 1
CMSE 201 Computational Modeling and Data Analysis I 4
(2) One of the following, either (a) or (b) (3 or 4 credits):
(a) All of the following courses:
BLD 439 Histocompatibility and Immunogenetics 1
BLD 446 Immunobiology Neoplasia 1
BLD 447 Immunotherapy and Immunomodulation 1
(b) One of the following courses:
CMSE 202 Computational Modeling and Data Analysis II 4
MMG 431 Microbial Genetics 3
MMG 465 Advanced Medical Microbiology 3

Effective Fall 2022.

2. Request to change the requirements for the **Bachelor of Arts or Bachelor of Science** degree in **Statistics** in the Department of Statistics and Probability.

- a. Under the heading **Requirements for the Bachelor of Arts or Bachelor of Science Degree in Statistics** make the following changes:

- (1) Replace item 3. a. (5) with the following:

One of the following courses (4 credits):
CMSE 201 Computational Modeling and Data Analysis I 4
CSE 231 Introduction to Programming I 4

- (2) Change the credits of 3. b. from '9' to '10'.

- (3) In item 3. b. (1) delete the following course:

STT	301	Computational Methods for Data Science	3
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Add the following course:

STT	180	Introduction to Data Science	4
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- (4) Replace item 3. e. (3) with the following:

CSE 232 or 260 or any 300-level or higher CSE course; or CMSE 281 or any 400-level or higher CMSE course;

Effective Summer 2022.

COLLEGE OF NURSING

1. Request to change the requirements for the **Doctor of Philosophy** degree in **Nursing**. The University Committee on Graduate Studies (UCGS) will consider this request at its February 14, 2022 meeting.

- a. Under the heading **Admission** delete the following:

- (2) Competitive scores on the Graduate Record Examination Verbal, Quantitative, and Analytic sections completed within last five years.

- b. Replace the paragraph following **Admission** with the following:

Applicants with completed materials are reviewed by a faculty committee. Applicants identified as well-matched with the College of Nursing academic standards and program focus will be contacted for a required personal interview and written evaluation with representatives from the doctoral program faculty. Recommendations for admission are made by the faculty committee to the Director of the Doctoral Program and the Dean of the College based on the requirements for admission and the personal interview.

Effective Summer 2022.

PART II - NEW COURSES AND CHANGES

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

- CSS 431 International Agricultural Systems
Spring of every year. 3(3-0) ~~P: (ANR 250 or ISS 310 or ISS 315 or ISS 318 or ISS 320 or ISS 330A or ISS 330B or ISS 330C or ISS 336) and completion of Tier I writing requirement~~ P: (ANR 250 or ISS 310 or ISS 315 or ISS 318 or ISS 320 or ISS 330A or ISS 330B or ISS 330C) and completion of Tier I writing requirement ~~R: Not open to freshmen.~~ R: Not open to freshmen and not open to sophomores.
World production capacity for food, fiber and biofuel as related to soil, biology and climatic resources. Principles and case studies of sustainable systems presented from developing and developed countries. Emerging issues in agricultural globalization and biodiversity.
~~Effective Fall 2019~~ Effective Fall 2021

COLLEGE OF ENGINEERING

- CHE 201 Material and Energy Balances
Fall of every year. Spring of every year. Summer of every year. 3(4-0) P: (MTH 133 or MTH 153H or LB 119) and (CEM 142 or CEM 152 or LB 172) and ((CSE 231 or concurrently) or (EGR 102 or concurrently))
Chemical engineering calculations. Synthesis of chemical process systems. Analysis of chemical processes using material and energy balances. Enthalpy calculations for changes in temperature, phase transitions, and chemical reactions.
~~Effective Spring 2021~~ Effective Fall 2022
- CHE 472 ~~Composite Materials Processing~~
Polymeric Composite Materials Processing
Fall of every year. 3(2-3) Interdepartmental with Materials Science and Engineering. ~~P: CHE 311 or ME 332 or CE 321~~ P: (CHE 311 or ME 332 or CE 321) or (MSE 360 and MSE 370)
Manufacturing processes for thermoset and thermoplastic matrix composites. Mechanical and thermal evaluation of composites. Rheology and molding of fiber-filled materials.
~~Effective Fall 2014~~ Effective Fall 2022
- CHE 473 Chemical Engineering Principles in Polymers and Materials Systems
Spring of every year. 3(3-0) Interdepartmental with Materials Science and Engineering. ~~P: CHE 311 and CHE 321 and CHE 431 and CEM 352~~ P: ((CHE 321 and CHE 431) or (MSE 360 and MSE 370)) and (CHE 311 or ME 332 or CE 321) and (CEM 252 or CEM 352)
Application of chemical engineering principles to polymer and materials systems. Structures and properties of metals, ceramics and polymers. Thermodynamics, synthesis, rubber elasticity, viscoelasticity, kinetics, rheology, and processing of polymers systems. Application of statistics and problem-solving skills to materials systems.
SA: CHE 371
~~Effective Fall 2014~~ Effective Fall 2022
- CSE 100 Computer Science as a Profession
Fall of every year. Spring of every year. 1(1-0) RB: High school algebra; ability to use a computer for browsing, email, and report preparation.
The computing and programming profession. Professionalism and ethics. Industry practice. Experiments with programming.
DELETE COURSE
Effective Fall 2022

- CSE 101 Computing Concepts and Competencies
Fall of every year. Spring of every year. Summer of every year. 3(2-2)
Core concepts in computing including information storage, retrieval, management, and representation. Applications from specific disciplines. Applying core concepts to design and implement solutions to various focal problems, using hardware, multimedia software, communication and networks.
SA: CPS 100, CPS 130
DELETE COURSE
Effective Fall 2022
- CSE 201 Fundamentals of Information Technology
Fall of every year. Spring of every year. 3(3-0) P: (CSE 102 or CSE 220 or CSE 231) and (MTH 103 or MTH 103B or MTH 116 or MTH 124 or MTH 132 or MTH 152H or LB 118) RB: high school algebra; literacy in web and computer tools, such as editor and browser.
Fundamentals of applied computing and computational thinking.
SA: CSE 240
DELETE COURSE
Effective Fall 2022

COLLEGE OF HUMAN MEDICINE

- HM 607 Medical Reading Elective
Fall of every year. Spring of every year. Summer of every year. 3 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: HM 556 R: Open to graduate-professional students in the College of Human Medicine.
- NEW Elective to strengthen the foundations of resilience and confidence in future physicians. Course includes medical readings and written reflections on resiliency, burnout, humanism in medicine, and patient stories.
Request the use of the Pass-No Grade (P-N) system.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
Effective Spring 2022
- MED 641 Internal Medicine Clerkship in the Late Clinical Experience
Fall of every year. Spring of every year. Summer of every year. ~~6 credits.~~ 6 to 9 credits. P: HM 556
R: Open to graduate-professional students in the College of Human Medicine.
Clinical experience in which students take primary responsibility for managing the care of adult patients under the supervision of senior residents and/or attending physicians
Request the use of the Pass-No Grade (P-N) system.
Request the use of ET-Extension to postpone grading.
The work for the course must be completed and the final grade reported within 1 semester after the end of the semester of enrollment.
~~Effective Summer 2020~~ Effective Fall 2022

COLLEGE OF NATURAL SCIENCE

- BLD 430 Molecular Diagnostics
Spring of every year. 2(2-0) P: ~~(BS 161 or LB 145 or BS 181H) and (BLD 204 and BLD 313)~~ P: BS 161 or LB 145 or BS 181H RB: ~~BLD 204 and BLD 313~~
Concepts and principles of molecular analysis applied to medical diagnostics and related applications.
SA: MT 430
~~Effective Fall 2018~~ Effective Summer 2022

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- BLD 430L Molecular Diagnostics Laboratory
Fall of every year. 1(0-3) P: BLD 430 R: Open to undergraduate students in the Biomedical Laboratory Diagnostics Program or approval of department.
Molecular technologies with emphasis on clinical and diagnostic applications.
DELETE COURSE
Effective Summer 2022
- BLD 443 Introduction to Laboratory Information Systems
Spring of every year. 3(3-0) P: (CSE 201 or CSE 231) and (MTH 124 or MTH 132) and BLD 213L
R: Open to students in the Information Technology Minor.
Purpose and function of information systems components used in medical laboratories.
Practical applications of system selection, validation, maintenance, problem resolution and report generation.
DELETE COURSE
Effective Fall 2022
- BLD 444 Laboratory Information Technology Practicum and Project Management
Summer of every year. 3(0-40) P: BLD 443 and ITM 311 RB: Biomedical Laboratory Science major. R: Open to students in the Information Technology Minor. Approval of department.
Gain experience in using, maintaining and managing quality of a laboratory information system at a clinical or public health laboratory site. Project management principles and application.
DELETE COURSE
Effective Fall 2022
- BLD 452L Immunodiagnosics Laboratory
Spring of every year. 1(0-3) P: BLD 314L and BLD 434 R: Open to students in the Biomedical Laboratory Science Major or approval of department. Not open to students with credit in BLD 852.
Performance of immunopurifications, in vitro diagnostic assays and basic flow cytometry.
Data analysis and quality control evaluation.
DELETE COURSE
Effective Summer 2022
- BLD 460 Advanced Molecular Diagnostics
Fall of every year. 2(2-0) P: BLD 430 R: Open to students in the Lyman Briggs College or in the College of Natural Science.
Common and specialized molecular diagnostic technologies applied to medical diagnostics and related applications.
DELETE COURSE
Effective Summer 2022
- BLD 461 Advanced Biomedical Technologies
Fall of every year. 3(3-0) P: (BLD 430) and (BLD 434 or MMG 451) RB: BLD 314L R: Open to students in the Biomedical Laboratory Science Major.
- NEW Common and specialized molecular and antibody-based diagnostic technologies applied to medical diagnostics and related biomedical research applications.
SA: BLD 460
Effective Fall 2022
- BLD 461L Advanced Biomedical Technologies Laboratory
Fall of every year. 1(0-3) P: (BLD 461 or concurrently) and (BLD 314L or concurrently) R: Open to students in the Biomedical Laboratory Science Major.
- NEW Laboratory in molecular and antibody-based technologies with emphasis on clinical and diagnostic applications.
SA: BLD 430L, BLD 452L
Effective Fall 2022

- CEM 351 Organic Chemistry I
Fall of every year. 3(4-0) P: CEM 152 or CEM 182H or CEM 142 or LB 172 ~~Not open to students with credit in CEM 251.~~
Structure, bonding, and reactivity of organic molecules.
~~Effective Spring 2013~~ Effective Fall 2022
- CEM 352 Organic Chemistry II
Spring of every year. 3(4-0) P: CEM 351 ~~Not open to students with credit in CEM 252.~~
Carboxylate derivatives. Conjugation. Aromaticity. Amino acids. Proteins. Carbohydrates. Nucleic acids.
~~Effective Spring 2013~~ Effective Spring 2023
- PHY 855 Quantum Field Theory
Spring of every year. ~~2(2-0)~~ 3(3-0) RB: PHY 852 R: Open to graduate students in the Department of Physics and Astronomy or approval of department.
~~Introduction to field theory as it pertains to numerous problems in particle, nuclear and condensed matter physics. Second quantization, applications to different fields based on perturbation theory. Offered first half of semester.~~ Introduction to field theory, including relativistic aspects, as it pertains to numerous problems in particle, nuclear and condensed matter physics. Second quantization, renormalization, and applications to different fields based on perturbation theory.
~~Effective Fall 2014~~ Effective Spring 2023

COLLEGE OF NURSING

- NUR 434 ~~Nursing Care of Acute and Critically Ill Patients~~
Complex Care of Acutely Ill Patients
Fall of every year. Spring of every year. 4(2-6) P: NUR 337 and NUR 371 and NUR 342
~~Nursing process and clinical judgment to manage and evaluate care for acute and critically ill patients at an advanced level.~~ Nursing process and clinical judgment to manage and evaluate complex care for acutely ill patients.
~~Effective Fall 2010~~ Effective Spring 2022
- NUR 903 Healthcare Informatics
Fall of every year. 3(3-0) ~~P: NUR 902 or concurrently~~ R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Health information systems and technologies in relationship to the delivery of efficient, high quality healthcare.
~~Effective Fall 2018~~ Effective Spring 2022
- NUR 904 Health Policy and Advocacy
Fall of every year. Summer of every year. 3(3-0) ~~P: NUR 902 or concurrently~~ R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Interactions between economics, ethical principles, social policies, legislative and regulatory processes that influence access, delivery and organization of healthcare.
~~Effective Fall 2018~~ Effective Spring 2022
- NUR 906 Leadership in Complex Health Systems
Fall of every year. Spring of every year. Summer of every year. 3(3-0) ~~P: NUR 902~~ R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Knowledge, skills and attributes required to assume leadership as an Advanced Practice Registered Nurse in complex health systems.
~~Effective Fall 2018~~ Effective Spring 2022

- NUR 908 Advanced Physical Assessment for the Advanced Practice Registered Nurse
Spring of every year. 3(2-3) ~~P: NUR 907 or NUR 969~~ R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Comprehensive assessment including history, physical and psychological assessment of signs and symptoms, pathophysiologic changes, and psychosocial variations of the patient. Specific assessment related to Nurse Anesthetist, Clinical Nurse Specialist and Nurse Practitioner practice will be a focus in the practical experience of students.
~~Effective Fall 2018~~ Effective Spring 2022
- NUR 909 Advanced Pharmacology for the Advanced Practice Registered Nurse
Spring of every year. Summer of every year. 3(3-0) ~~P: NUR 907 and NUR 908~~ R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major.
Application of pharmacotherapeutics for disease conditions including knowledge of pharmacokinetics, pharmacodynamics, pharmacogenetics, pharmacy and toxicology used to guide selection of interventions.
~~Effective Fall 2018~~ Effective Spring 2022
- NUR 912 Health Promotion – Family
Spring of every year. Summer of every year. 3(3-0) ~~P: NUR 907~~ P: NUR 902 and NUR 907 and EPI 840 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. C: EPI 840 concurrently.
Integration of concepts, theories and principles of population health, health promotion and disease prevention at the advanced practice level across the lifespan.
~~Effective Fall 2018~~ Effective Spring 2022
- NUR 913 Health Promotion – Adult-Gerontology
Spring of every year. Summer of every year. 3(3-0) ~~P: NUR 907~~ P: NUR 902 and NUR 907 and EPI 840 R: Open to graduate students in the College of Nursing or in the Master of Science in Nursing or in the Nursing Practice Major. C: EPI 840 concurrently.
Integration of concepts, theories and principles of population health, health promotion and disease prevention at the advanced practice level for adults and older adults.
~~Effective Fall 2018~~ Effective Spring 2022