

General Education Requirements for *Civil Engineering Majors*

TIER 1: BASIC COLLEGE LEVEL SKILLS – outline of required courses for CE degree

Oral Communications: (3 credits)

Oral Communication skills courses increase the abilities of students to interact appropriately and effectively in a variety of contexts, including interpersonal, small group, and public speaking settings. In these courses, students develop both their message creation and message interpretation skills in order to be more successful communicators. In doing so, students develop an awareness of the role of communication in a variety of human relationships. Students develop and implement effective and appropriate communication skills, including the ability to develop, organize, present, and critically evaluate messages; analyze audiences; and adapt to a variety of in-person communication settings.

COMM A111 Fundamentals of Oral Comm.
COMM A235 Small Group Communication

COMM A237 Interpersonal Communication
COMM A241 Public Speaking

Quantitative Skills: (3 credits)

Quantitative skills courses increase the mathematical abilities of students in order to make them more adept and competent producers and wiser consumers of the mathematical, statistical and computational analyses which will dominate 21st century decision making. In these courses, all baccalaureate students develop their algebraic, analytic and numeric skills, use them to solve applied problems, and correctly explain their mathematical reasoning.

*MATH A200 Calculus I

Written Communication Skills: (6 credits)

Written communication courses emphasize that writing is a recursive and frequently collaborative process of invention, drafting, and revising as well as a primary element of active learning in literate cultures. Students practice methods for establishing credibility, reasoning critically, and appealing to the emotions and values of their audience. They write for a variety of purposes and audiences by employing methods of rhetorical and cultural analysis. They develop the tools to read, think, and write analytically about print and non-print texts and to generate texts that engage their own perceptions while synthesizing the ideas of texts and scholars. Students demonstrate their ability to communicate effectively by selecting form and content that fits the situation; adhering to genre conventions; adapting their voice, tone, and level of formality to that situation; and controlling stylistic features such as sentence variety, syntax, grammar, usage, punctuation, and spelling.

*ENGL A111 Methods of Written English

*ENGL A212 Technical Writing

TIER 2: DISCIPLINARY AREAS– outline of required courses for CE degree

Note: At least six (6) of the fifteen (15) semester credit hours that are required for Social Science, Humanities and Fine Arts, must be completed at an advance level (200) or above. For Humanities, three (3) credits of the advanced level course requirement may be met by taking sequence courses at the 100 level or above. For example: If History 101 is followed by History 102, then History 102 would count as an advanced level course.

Fine Arts: (3 credits-outside of major)

The Fine Arts (visual and performing arts) focus on the historical, aesthetic, critical, and creative approaches to understanding the context and production of art as academic and creative disciplines as opposed to those that emphasize acquisition of skills. Students who complete the Fine Arts requirement should be able to identify and describe works of art by reference to media employed, historical context and style, and structural principles of design and composition. They should be able to interpret the meaning or intent of works of art and assess their stylistic and cultural importance by reference to their historical significance, their relationship to earlier works and artists and their overall impact of subsequent artistic work.

AKNS/

MUS A215 Music of Alaska Native and Indigenous Peoples of Northern Regions

ART A160 Art Appreciation

ART A261 History of World Art I

ART A262 History of World Art II

ART A360A History of Non-Western Art I

ART A360B History of Non-Western Art II

DNCE A170 Dance Appreciation

MUS A121 Music Appreciation

MUS A124 History of Jazz

MUS A221 History of Music I

MUS A222 History of Music II

THR A111 Introduction to the Theatre

THR A311 Representative Plays I

THR A312 Representative Plays II

THR A411 History of the Theatre I

THR A412 History of the Theatre II

Humanities: (6 credits- outside the major)

The humanities examine the characteristic of reality, the purpose of human existence, the properties of knowledge, and the qualities of sound reasoning, eloquent communication, and creative expression. They study the problems of right conduct in personal, social, and political life. They also consider the qualities of the divine, the sacred, and the mysterious. In these tasks the humanities reflect upon the world's heritage of the arts, history, languages, literature, religion, and philosophy. Students who complete a content-oriented course in the humanities should be able to identify texts or objects, to place them in the historical context of the discipline, to articulate the central problems they address, and to provide reasoned assessments of their significance. Students who complete a skills-oriented humanities course in logic should be able to identify the premises and conclusions of brief written arguments, to evaluate their soundness or cogency, and to recognize common fallacies. They should also be able to use a formal technique to determine the validity of simple deductive arguments and to evaluate the adequacy of evidence according to appropriate inductive standards. Students who complete a skill oriented humanities course in a language should demonstrate proficiency in listening, speaking and writing.

AKNS A101 Alaska Native Languages I

AKNS A102 Alaska Native Languages II

AKNS A201 Native Perspectives

ART A261 History of World Art I

ART A262 History of World Art II

ART A360A History of Non-Western Art I

ART A360B History of Non-Western Art II

ASL A101 Elementary Amer. Sign Language I

ASL A102 Elementary Amer. Sign Language II

ASL A201 Intermediate Amer. Sign Language I

ASL A202 Intermediate Amer. Sign Language II

CHIN A101 Elementary Chinese I

CHIN A102 Elementary Chinese II

ENGL A121 Introduction to Literature

ENGL A201 Masterpieces of World Literature I

ENGL A202 Masterpieces of World Lit. II

ENGL A301 Literature of Britain I

ENGL A302 Literature of Britain II

ENGL A305 Topics in National Literatures

ENGL A306 Literature of the United States I

ENGL A307 Literature of the United States II

ENGLA310 Ancient Literature

ENGLA383 Film Interpretation

ENGL A445 Alaska Native Literatures

FREN A101 Elementary French I

FREN A102 Elementary French II

FREN A201 Intermediate French I

FREN A202 Intermediate French II

GER A101 Elementary German I

GER A102 Elementary German II

GER A201 Intermediate German I

GER A202 Intermediate German II

HIST A101 Western Civilization I

HIST A102 Western Civilization II

HIST A121 East Asian Civilization I

HIST A122 East Asian Civilization II

HIST A131 History of United States I

HIST A132 History of United States II

HIST A341 History of Alaska

HUM A211 Introduction to Humanities I

*Bachelor of Science, Civil Engineering (BSCE) requirement that also satisfies UAA Gen. Edu. Requirement.

HUM A212 Introduction to Humanities II
 HUM A250 Myths and Contemporary Culture
 JPN A101 Elementary Japanese I
 JPN A102 Elementary Japanese II
 JPN A201 Intermediate Japanese I
 JPN A202 Intermediate Japanese II
 LING A101 The Nature of Language
 MUS A221 History of Music I
 MUS A222 History of Music II
 PHIL A101 Introduction to Logic
 PHIL A201 Introduction to Philosophy
 PHIL A211 History of Philosophy I
 PHIL A212 History of Philosophy II
 PHIL A301 Ethics
 PHIL A313 Eastern Philosophy and Religion
 PHIL A314 Western Religion
 PS A331 Political Philosophy

PS A332 History of Political Philosophy I: Classical
 PS A333 History of Political Philosophy II: Modern
 RUSS A101 Elementary Russian I
 RUSS A102 Elementary Russian II
 RUSS A201 Intermediate Russian I
 RUSS A202 Intermediate Russian II
 SPAN A101 Elementary Spanish I
 SPAN A102 Elementary Spanish II
 SPAN A201 Intermediate Spanish I
 SPAN A202 Intermediate Spanish II
 THR A311 Representative Plays I
 THR A312 Representative Plays II
 THR A411 History of the Theatre I
 THR A412 History of the Theatre II

Natural Sciences: (7 credits, including one lab)

The natural sciences focus on gaining an understanding of the matter, events and processes that form and sustain our universe. Methods of scientific inquiry are diverse, but all aim to formulate general principles that explain observations and predict future events or behaviors within their disciplines. Laboratory courses illustrate how scientists develop, test, and challenge scientific theories, providing an appreciation for the process and problems involved in the advancement of scientific knowledge. Students completing their natural sciences requirement will be able to apply the scientific method by formulating questions or problems, proposing hypothetical answers or solutions, testing those hypotheses, and reaching supportable conclusions. They will also demonstrate an understanding of the fundamentals of one or more scientific disciplines, a knowledge of the discoveries and advances made within that discipline and the impact of scientific information in sculpting thought and in providing the foundations for the technology in use at various times in history. Students completing the laboratory class will demonstrate the ability to work with the tools and in the settings encountered by professionals in the discipline, will critically observe materials, events or processes, and will accurately record and analyze their observations.

*CHEM A105/L General Chemistry I

*CHEM A106/L General Chemistry II

Social Sciences : (6 credits- outside the major; from two different disciplines)

The social sciences focus on the acquisition, analysis, and interpretation of empirical data relevant to the human experience. Disciplines differ in their focus on collective as opposed to individual behavior, biological as opposed to social or cultural factors, the present as opposed to the past, and quantitative as opposed to qualitative data. Students who complete a general education social sciences course should be motivated to reflect on the workings of the society of which they are apart and should possess a broad perspective on the diversity of human behavior. They should be able to distinguish between empirical and nonempirical truth claims. They should be aware of the limits of human objectivity and understand the rudiments of how ideas about social phenomena may be tested and verified or rejected. They should have an introductory knowledge of social science thinking which includes observation, empirical data analysis, theoretical models, quantitative reasoning, and application to social aspects of contemporary life. A student who has met the social science general education requirement is expected to be able to demonstrate knowledge of social science approaches and to apply that knowledge in a particular content area.

ANTH A101 Introduction to Anthropology
 ANTH A200 Natives of Alaska
 ANTH A202 Cultural Anthropology
 ANTH A250 The Rise of Civilization

BA A151 Introduction to Business
 CEL A292 Intro to Civic Engagement
 ECON A201 Principles of Macroeconomics
 ECON A202 Principles of Microeconomics

EDEC A105 Intro to the Field of Early Childhood
ENVI A201 Living on Earth: Introduction to
Environmental Studies
GEOGA101 Local Places/Global
Regions/Introduction to
Geography
HS A220 Core Concepts in the Health Sciences
HUMS A106 Introduction to Social Welfare
INTL A101 Local Places: Global
Regions/Introduction to
Geography
JPC A101 Introduction to Mass Communication
JUST A110 Introduction to Justice
JUST A330 Justice and Society
LSSS A111 Cultural Foundations of Human
Behavior
PARL A101 Introduction to Law
PS A101 Introduction to American Government

PS A102 Introduction to Political Science
PS A311 Comparative Politics
PS A351 Political Sociology
PSYA111 General Psychology
PSY A150 Life Span Development
SOC A101 Introduction to Sociology
SOC A110 Introduction to Gerontology:
Multidisciplinary Approach
SOC A201 Social Problems and Solutions
SOC A202 The Social Organization of Society
SOC A222 Small and Rural Communities
SOC A342 Sexual, Marital and Family Lifestyles
SOC A351 Political Sociology
SWK A106 Introduction to Social Welfare
SWK A243 Cultural Diversity and Community
Services
WS A200 Introduction to Women's Studies

TIER 3: INTEGRATIVE CAPSTONE -outline of required courses for CE degree

Integrative Capstone: (3 credits)

The GER experience culminates with the Integrative Capstone, which includes courses from across the university that require students to synthesize across GER domains. Integrative Capstone courses include knowledge integration of GER Basic College-Level skills (Tier 1) and/or Disciplinary Areas (Tier 2) as part of their course design. Integrative Capstone courses should focus on practice, study, and critical evaluation, and include in their student outcomes an emphasis on the evolving realities of the 21st century. Students completing the Integrative Capstone requirement must demonstrate the ability to integrate knowledge by accessing, judging and comparing knowledge gained from diverse fields and by critically evaluating their own views in relation to those fields.

*CE A438 Design of Civil Engineering Systems