

MSU Core General Curricular Requirements

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MSU Core Curriculum

Essential Elements of a Montana State University Education – The MSU Core

Students engage in developing the MSU Core Qualities through the MSU Core Curriculum and their major areas of study. The MSU Core Curriculum integrates education in communication, thinking and problem solving, and local and global citizenship with knowledge and experiences in the natural, social and mathematical sciences, the arts, and the humanities. Through the MSU Core students develop an enhanced understanding of themselves, their effectiveness as communicators and thinkers and problem solvers, and their responsibilities as members of larger local and global communities. These MSU Core Qualities deepen the experience of the MSU undergraduate education, enhance health and well-being, enrich disciplinary pursuits, and establish MSU's graduates as lifelong learners and engaged citizens.

*Students who have completed a Bachelor degree from another accredited institution or have received an Associate of Art or Science degree from a Montana University System school or one of the seven Montana Tribal Colleges are assumed to have met general education (Core 2.0) requirements and will not be required to complete the MSU core curriculum.

MSU Core Qualities & Outcomes

MSU Graduates are Effective Communicators who use written, spoken, and visual communication to create meaning, build relationships, foster understanding, and persuade. They express their ideas in manners appropriate for their intended audience and for their intended context. Graduates collaborate with others by openly and constructively giving and receiving feedback, and they use that feedback to revise and improve their own communication. They demonstrate facility in analyzing, interpreting, and understanding sources of information and in constructing persuasive arguments in ways that empower and challenge their own and other's thinking.

MSU Graduates are Thinkers and Problem Solvers who reason using relevant evidence gathered through scholarly, disciplinary and interdisciplinary methods. They analyze, construct or critique arguments taking into consideration premises, assumptions, contexts and conclusions. Graduates apply information literacy; the ability to skillfully consume (i.e. find, evaluate, and use) and meaningfully create information. They successfully anticipate counterarguments, but can respectfully consider, accommodate or incorporate opposing views as appropriate. Graduates

independently, or collaboratively, demonstrate creative and innovative approaches to asking and answering questions, defining problems and identifying solutions, and creating knowledge or art.

MSU Graduates are Local and Global Citizens who demonstrate effective strategies to listen and respond to others. They act with integrity in establishing respectful relationships and productively manage conflict to reach ethical outcomes. Graduates understand sources of identities, their own and others, and how identities influence civic values, assumptions, responsibilities and community engagement. They apply knowledge of diverse cultures, histories, values, and conflicts that have shaped the US and other world societies to better understand current events, US democratic and other global political institutions, or social life. Graduates value the important role informed, engaged citizens play in democratic societies and can determine for themselves what political and social issues, problems or policies they wish to engage with as citizens.

The MSU Core Curriculum is a series of Perspectives courses that expose students to the diversity of knowledge and methods that provide a foundation for life-long learning and integrate the teaching of all three of the MSU Core Qualities, with an emphasis on the MSU Core Qualities that most closely align with the course content. Each course will improve MSU students' competency and capacity in communication, thinking and problem solving, and local and global citizenship.

Core Perspectives courses are identified with a "letter attribute" after the course number which corresponds to the specific Core Perspectives area. For example, courses that fulfill the college writing requirement are indicated with a "W" (WRIT 101 W). A current list of MSU Core Perspectives course offerings can be found in the schedule of MSU Core classes. (https://atlas.montana.edu:9000/pls/bzagent/bzscxcore.pw_selterm/)

Students must complete the equivalent of one course in each of the **Core Perspectives**: University Seminar (US), College Writing (W), Quantitative Reasoning (Q), Diversity (D), Contemporary Issues in Science (CS), Inquiry Arts (IA or RA), Inquiry Humanities (IH or RH), Inquiry Natural Sciences (IN or RN), and Inquiry Social Sciences (IS or RS). All students must also take at least one 3 credit course in an approved Research & Creative Experience (R) course. Students may take an approved Research & Creative Experience course in one of the four Inquiry Perspectives areas mentioned above (indicated with an R) or they may take a separate Research & Creative Experience course in any discipline, including Undergraduate Scholars Program (USP 490R).

Notes:

- Total number of credits: 27-30. If the Research and Creative Experience requirement is completed as part of the requirements in Arts, Humanities, Natural Sciences or Social Sciences the total credits will be 27; otherwise 30.
- A grade of C- or better is required in all MSU Core courses.
- Completion of at least two approved Natural Science courses with a grade of C- or better satisfies both the Contemporary Issues in Science and the Natural Science Inquiry requirements. Individual substitutions for one requirement of the other are not permissible.

MSU Core Perspectives

University Seminar (US)

Rationale: University Seminar introduces and develops all three MSU Core Qualities through multidisciplinary readings and collegiate level discourse. The seminar is designed to engage students in meaningful and respectful knowledge exchange with others, help students develop a strong sense of self and self-awareness through an exploration of their own values and

beliefs and the values and beliefs of their peers, and foster a commitment to learning and excellence.

University Seminar courses emphasize all three MSU Core Qualities of “Effective Communicator,” “Thinker and Problem Solver” and “Local and Global Citizen.”

Written Communication (W)

Rationale: The Written Communication course, WRIT101W, develops written and verbal communication skills in ways that will facilitate success at communicating knowledge, ideas and information clearly and effectively in academic, workplace and community settings.

The Written Communication course emphasizes the MSU Core Quality of “Effective Communicator.”

Students whose scores meet or exceed any one of the following are exempt from the College Writing requirement:

- ACT English score of 28
- SAT Critical Reading score of 750
- ACT/SAT essay/ writing sub-score of 11
- High School GPA of 3.9 or higher

*The credits will have to be made up in other coursework in order to meet the minimum graduation requirements.

Quantitative Reasoning (Q)

Rationale: Quantitative Reasoning courses develop computational and analytical skills, the ability to reason about and solve real-world problems, as well as create and critically evaluate arguments supported by quantitative evidence.

Quantitative Reasoning courses emphasize the MSU Core Quality of “Thinker and Problem Solver.”

Diversity (D)

Rationale: Diversity courses examine race, gender, sexuality, social class, ethnicity, nationality, indigeneity or other social differences and place them in their historical or contemporary contexts.

Diversity courses emphasize the MSU Core Qualities “Local and Global Citizen” and “Effective Communicator”.

Contemporary Issues in Science (CS)

Rationale: Contemporary Issues in Science courses develop familiarity with how scientists apply methods to explore scientific questions and real-world problems, identify and reflect on ethical claims regarding scientific research and its applications to contemporary problems or challenges while acknowledging the conflicting values that underlie these claims, and engage constructively in open discussions about contemporary issues and ethical or moral dilemmas in science.

Contemporary Issues in Science courses emphasize the MSU Core Qualities “Thinker and Problem Solver” and “Local and Global Citizen.”

Inquiry (IA, IH, IN, IS)

Rationale: Every Inquiry course develops familiarity with the methods used to discover and create the factual and theoretical knowledge of various disciplines. Each course will examine particular issues in the discipline while exploring its methodological and theoretical foundations.

Inquiry Arts

Courses in the Arts will explore the production and consumption of meaning and value through forms of expression that communicate, in both logical and emotional terms, the arts.

Inquiry Humanities

Courses in the Humanities will explore ethical and moral, aesthetic and creative, historical and descriptive dimensions of human cultural traditions, emphasizing methods of reaching a conclusion, formulating an interpretation, or making a judgment in the discipline.

Inquiry Natural Sciences

Courses in Natural Sciences will emphasize a coherent body of scientific principles and the methods scientists use to create knowledge of the natural world.

Inquiry Social Sciences

Courses in the Social Sciences will emphasize methods and principles used by social scientists to systematically study human behavior.

Inquiry courses develop the MSU Core Qualities “Thinking and Problem Solver” and **either** “Effective Communicator” **or** “Local and Global Citizen.”

Research & Creative Experience (R)

Rationale: Research & Creative Experience courses are either 1) a lower-division research course that provides opportunities for learning research skills and developing the MSU Core Qualities or 2) a culminating experience where seniors complete a project in their major program of study that integrates and synthesizes what they have learned in their degree programs and in the MSU Core.

Research and Creative Experience courses develop and allow students to demonstrate at least two of the MSU Core Qualities “Effective Communicator,” “Thinker and Problem Solver” and/or “Local and Global Citizen.”

Permitted Substitutions

Completion of at least two of the following courses with a grade of C- or better satisfies the Contemporary Issues in Science (CS) and the Inquiry Natural Science (IN) requirements. Individual substitutions for one requirement or the other are not permissible.

BIOB 105CS	Introduction to Biotechnology	3
BIOB 110CS	Plant Science	3
BIOB 160	Principles of Living Systems	4
BIOB 170IN	Principles of Biological Diversity	4
BIOB 260	Cellular and Molecular Biology	4
BIOH 201	Human Anatomy and Physiology I	5
BIOH 211	Human Anatomy and Physiology II	4
BIOM 210RN	Environmental Health Science	3
BIOM 250	Microbiology for Health Sciences: Infectious Diseases	3
BIOO 220	General Botany	3
CHMY 121IN & CHMY 122IN	Introduction to General Chemistry and Introduction to General Chemistry Lab	4
CHMY 123 & CHMY 124	Introduction to Organic Chemistry and Biochemistry and Introduction to Organic and Biochemistry Lab	4

CHMY 141 & CHMY 142	College Chemistry I and College Chemistry I Lab	4
CHMY 143 & CHMY 144	College Chemistry II and College Chemistry II Lab	4
CHMY 151 & CHMY 152	Honors College Chemistry I and Honors College Chemistry I Lab	4
CHMY 153 & CHMY 154	Honors College Chemistry II and Honors College Chemistry II Lab	4
CHMY 211 & CHMY 212	Elements of Organic Chemistry and Elements of Organic Chemistry Lab	5
ENSC 245IN	Soils	3
ERTH 101IN	Earth System Sciences	4
ERTH 201IN	Honors Earth System Science	4
GEO 103CS	Intro to Envrmntl Geology	4
GEO 211	Earth History and Evolution	3
NRSM 240	Natural Resource Ecology	3
PHSX 205	College Physics I	4
PHSX 207	College Physics II	4
PHSX 220	Physics I with Calculus	4
PHSX 222	Physics II with Calculus	4
PHSX 224	Physics III	4
PHSX 240	Honors Gen & Mod Phys I	4
PHSX 242	Honors Gen & Mod Phys II	4

MSU Core Credit Policies

1. College-Level Examination Program credits (CLEP), if equivalent to MSU Core courses, can be used to fulfill Core requirements.
2. Advanced Placement credits (AP), if equivalent to MSU Core courses, can be used to fulfill Core requirements.
3. Credit earned in repeatable Core courses may be applied only once to MSU Core requirements.
4. Students in good standing in the Honors College may fulfill part of their MSU Core curriculum requirements by taking honors courses that carry a Core designation.

MSU Core Grading Standards

1. College-level competence in all areas of the MSU Core is necessary to graduate and a grade of C- or better is required in all MSU Core courses.
2. No MSU Core course may be taken on a pass/fail basis.
3. Certain transfer credits are posted as pass/fail and may be counted toward Core requirements: those are Advanced Placement (AP), International Baccalaureate (IB), and College Level Examination (CLEP). Additionally, modern language Prior Learning Assessment (PLA) granted via completing advanced coursework posts as pass/fail coursework and may count toward Core.
4. Coursework from MSU-approved study abroad require a C- or better to be posted as a "pass." Study abroad coursework that is pre-approved to count toward Core and is completed with an equivalent of C- or better may appear on the transcript as a pass and still count toward Core 2.0 completion.

Appeals

Unusual circumstances that warrant an appeal of the established policies and procedures must be initiated by the student, signed by his/her/their adviser and submitted to the Core Equivalency Review Committee (CERC) via the Registrar's Office.

Accommodation for Students with Math Learning Disabilities

Accommodation to the Quantitative Reasoning (Q) MSU Core requirement may be made for students with Math learning problems caused by disabilities. Accommodations, when permitted, apply only to the MSU Core requirement; they do not change requirements in majors, minors, or certificates.

MSU recognizes that some students with specific learning disabilities may experience difficulty completing the Core Quantitative Reasoning requirement. Students with learning disabilities who believe that they need an accommodation to meet the Quantitative Reasoning requirement should contact the Office of Disability Services (<https://www.montana.edu/disabilityservices/>) to begin the process to certify the disability. Learning Disability documentation must meet established MSU requirements as developed by Office of Disability Services.