Physical Science & Math-Related Majors

major	description	admission requirements	comments
Applied and Computational Mathematical Sciences	Applied and computational math; modelling; probability and statistics; algorithms.	Minimum admission requirements. MATH 124, 125, 126; CSE 142; one of MATH 307, MATH 308, MATH 310, AMATH 351, AMATH 352. Minimum 2.50 GPA in these courses; minimum 2.0 in each course. Must be enrolled at UW before applying to major.	B.S. degree only. Eight options, including Discrete Math and Algorithms (computer applications).
Astronomy	Structure, evolution, and dynamics of the solar system, stars, interstellar matter, galaxies, and the cosmos.	Open admission. 2.00 GPA.	B.S. degree only. Supporting coursework required in math and physics.
Atmospheric Sciences	Composition and structure of the atmosphere, atmospheric chemistry, weather analysis and prediction.	Open admission. 2.00 GPA.	B.S. degree only.
Biochemistry	Chemical processes of biological systems, including enzymology, molecular biology, and cell biology.	Competitive admission. Multiple admission tracks; see UW website for details	B.A. and B.S. degrees offered. B.S. requires 197 credits.Supporting coursework required in math, biology, and physics, as well as general, organic, and physical chemistry.
Bioengineering	The application of engineering technology to clinical practices and research. Bioinstrumentation, biomaterials, simulation of biosystems.	Competitive admission. Upper Admission: MATH 124, 125, 126; CHEM 142, 152, 162; 5 cr English comp; AMATH 301*; PHYS 121, 122*; BIOL 180, 200*; BIOEN 215* (*courses may be in progress at time of application). Minimum 2.5 cumulative GPA.	Also offer Early and Direct Admission.
Chemistry	The properties of substances, the changes they undergo, and the natural laws that describe these changes.	Competitive admission. Multiple admission tracks; see UW website for details.	Standard B.S., ACS Certified B.S., and B.A. degrees offered. ACS certified B.S. requires 185 credits; standard B.S. requires 182 credits. Supporting coursework required in math and physics.
Computer Engineering	An engineering degree covering theory, design, and implementation of computer systems; students choose a hardware or software track. Areas such as databases, graphics, and networks.	Competitive admission. MATH 124, 125, 126; PHYS 121, 122; 5 cr English comp; CSE 142, 143. Minimum 2.50 average in prerequisites.	Accelerated Admission: CSE 142, 143; 5 additional credits from Upper Division Admission requirements; at least 15 UW credits; 3.0 cumulative GPA.
Computer Science	The theory, design, and implementation of computer systems; a liberal arts degree with more flexible requirements than CE. Areas such as embedded systems, robotics, and artificial intelligence.	Competitive admission. MATH 124, 125, 126; CSE 142, 143; 5 cr approved natural science (usually PHYS 121 or CHEM 142); 5 cr English comp.	B.S. degree only. Accelerated Admission: CSE 142, 143; 5 additional credits from Upper Division Admission requirements; at least 15 UW credits; 3.0 cumulative GPA.

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Earth and Space Sciences	Study of the earth, its environment, its origin, and the processes by which it has been transformed and reconstituted through time.	Open admission. 2.00 GPA.	B.A. and B.S.: supporting coursework required in math, general chemistry, and physics. B.S. offers standard, biology, environmental earth sciences, and physics options.
Electrical Engineering	Design, development, production, and operation of devices that use electricity. Electrical energy production and transmission, electronics.	Competitive admission. MATH 124, 125, 126; CHEM 142; PHYS 121, 122; 5 cr English comp. Minimum 2.5 average in prerequisites. Minimum 2.5 cumulative GPA.	
Health Informatics and Health Information Management	The collection, organization, use, and evaluation of data in health care environments.	Competitive admission. 90 credits, including statistics, MGMT 300, BIOL 118 and 119, CSE/INFO 100, and a course in medical terminology (not offered at the UW).	Evening Degree Program only.
Mathematics	The study of the basic language of the physical sciences. Calculus, differential equations, linear algebra, probability, advanced theory.	Minimum admission requirements. MATH 124, 125, 126, plus one 300-level required MATH course. Minimum 2.0 in each required MATH course, minimum 2.00 average in all math courses. (Teaching major requires a 2.5 in each MATH course). Must be enrolled at UW before applying to major.	B.A. options: Standard, Philosophy, and Teacher Preparation. B.S. options: Standard and Comprehensive.
Oceanography	The physical, geological, chemical, and biological processes in the ocean and the interactions of the ocean with the earth, the biosphere, and the atmosphere.	Open admission. 2.00 GPA.	B.A. and B.S. Supporting coursework required in math, general chemistry, physics, biology, and earth and space sciences.
Physics	The fundamental structure of matter and the interaction of its constituents.	Open admission. 2.00 GPA.	B.S. degree only. Supporting coursework required in math and other sciences.
Statistics	Design of experiments and sampling surveys; exploration, summarization, and display of data; drawing inferences and assessing their uncertainty; mathematical models.	Minimum admission requirements. 45 credits, including MATH 124, 125, 126; 8 credits science (see Statistics website for list); one from STAT 220, 311, 390; 2.80 GPA in the courses listed, with a grade of at least 2.0 in each course.	B.S. degree only.