

Guidelines for the “Basic Science and Math” Requirements

The following guidelines have been developed to aid those Prospective Students who want to complete the science requirement(s) prior to their admittance to Oregon State University and the Environmental Sciences program. This coursework does not have to be completed prior to starting the program – it can be done while a student is in the ES program. In no way are these guidelines official approval to meet specific degree requirements.

Biology:

- A biology sequence intended for science/biology majors with labs taken **in-person** at an accredited institution. On-line biology sequences are not acceptable.
- Two semesters or three quarters equivalent to BI 211/212/213 at OSU
- If it is not clear based on the college course description that the biology sequence is intended for science majors you should follow these steps: 1) Consult with the college’s science department or biology instructor. 2) Does the college have transfer agreements with an accredited University? If so, what biology courses at the college level are accepted for transfer and will meet the basic Freshman biology sequence for the BS of Biology degree at that particular University. 3) Contact OSU ECampus for further clarification:
ecampus@oregonstate.edu
- **BI 211/212/213 Course Content:** Origins of life, energy transformations, plant and animal diversity and physiology, cell biology, organ systems, genetics, evolution, natural selection, and ecology

Chemistry:

- A general chemistry sequence for students who have had no previous training in chemistry and for those whose college aptitude test scores indicate the need for a more elementary introduction to chemistry **OR** a general chemistry sequence for students majoring in most sciences, pharmacy, and chemical engineering; full year of lab
- Two semesters or three quarters equivalent to CH 121/122/123 or CH 221/222/223 at OSU
- Available online at OSU ECampus
- **CH 121/122/123 Course Content:** Chemistry and measurement; atoms, molecules and ions; chemical formulas and equations; reactions; gases; thermochemistry; quantum theory of the atom; atomic electron configurations; bonding and molecular structure; hybridization and molecular orbitals, intermolecular forces; chemical kinetics and equilibrium; acids and bases equilibrium; thermodynamics; electrochemistry; nuclear chemistry; transition elements and coordination compounds; organic chemistry

Physics:

- A introductory algebra-based or calculus-based physics sequence with lab
- One semester or two quarters equivalent to PH 201/202 at OSU
- Available online at Chemeketa Community College and Eastern Oregon University
- **PH 201/202 Course Content:** classical and modern physics with applications - topics include dynamics, vibrations and waves, electricity and magnetism, optics, and modern physics

Calculus:

- A calculus sequence covering both differential and integral calculus for engineers and scientists
- Two semesters (one semester does not cover enough integral calculus) or two quarters equivalent to MTH 251/252 at OSU
- Available online at OSU ECampus
- Students should complete a pre-calculus course (college algebra and trigonometry) before attempting calculus
- **MTH 251 (Differential) Course Content:** Rates of change: the derivative, velocity, and acceleration. Algebraic rules of differential calculus and derivatives of polynomial, rational, and trigonometric functions. Maximum-minimum problems, curve sketching, and other applications. Anti-derivatives and simple motion problems
- **MTH 252 (Integral) Course Content:** Definite integrals, elementary applications to area, force, and work. Integral tables and basic techniques of integration, calculus of logarithmic and exponential functions, polar coordinates, applications to areas, volumes, force, work, and growth and decay problems

Statistics:

- Statistical methods
- One semesters or two quarters equivalent to ST 351 and ST 352 at OSU
- Available online at OSU ECampus
- **ST 351 Course Content:** Descriptive statistics, random variables, normal distribution, sampling distributions, confidence intervals and hypothesis tests for means using one and two samples.
- **ST 352 Course Content:** Simple and multiple linear regression, correlation, analysis of categorical data

Evaluation and Transferability of Credit

When applying for admission to Oregon State University, only **official** records are used to evaluate eligibility for admission and transferability of credit.

Official transcripts of **all** college work attempted must be submitted directly from the Registrar's Office of each institution. Telefax (Fax) credentials are considered official if faxed **directly** from a U.S. school with a cover page. Fax number is 541-737-2482.

OSU accepts in transfer all college-level courses successfully completed at **colleges or universities accredited by an appropriate accreditation agency**. An advanced standing report acknowledging the courses accepted by the university will be sent via e-mail by the Office of Admissions after the official letter of admission.

To search for regionally accredited institutions see the US Dept. of Education, Office of Postsecondary Education database at <http://ope.ed.gov/accreditation/Search.asp>

Persons transferring to OSU from a community college may have up to 124 term credits (83 semester units) accepted toward their bachelor's degree. If the school previously attended used the semester system, one semester credit equals 1.5 quarter credits at OSU.

For more information on evaluation and transferability of credit please contact the OSU Admissions office at 800-291-4192.

Transfer Resources

To view previous coursework that has been evaluated and approved for transfer to OSU see the following online resources: <http://oregonstate.edu/admissions/transfer/transfercredit.html>

Transfer Credit and the Environmental Sciences Degree Requirements

Only the Advising Specialist for the Environmental Sciences program at OSU can approve transfer credits to meet specific degree requirements. This final evaluation will occur once a person has been accepted as a degree-seeking student in the Environmental Sciences program and the Advance Standing Report has been generated by OSU Admissions.