

Nine credit hours are from the core areas of life science, statistics, math, and computer science. Student preference will guide the selection of a 3-credit hour elective course approved by the Program Committee.

Admissions

To enroll in the Graduate Certificate program, students are required to have a bachelor's degree preferably in computer science, statistics, mathematics, life sciences or related fields. Students can participate in this certificate program while concurrently enrolled in an M.S. or Ph.D. degree program.

Admission forms can be obtained by following the prompt to the Bioinformatics Certificate as a degree choice at the web address listed below:

<https://app.it.okstate.edu/gradcollege/>

Primary Student Learning Outcomes

- *To understand terminologies, technologies, and concepts used in the analysis of data related to genomes and genome structures.*
- *To acquire cross-disciplinary knowledge and independently design bioinformatics projects and organize collaborators of appropriate expertise across the core disciplines of life sciences, computer sciences, and statistics.*
- *To develop a set of skills including text mining/formatting, basic statistics, basic programming script, and use of genomic information and databases appropriate to their long-term employment.*

More program information is available at:

<http://bioinformatics.okstate.edu/>

<http://bioinformatics.okstate.edu/>

Oklahoma State University

www.okstate.edu

Admissions

www.gradcollege.okstate.edu/admissions

Financial Aid

www.okstate.edu/finaid/

Living and Housing

www.reslife.okstate.edu/

OKLAHOMA STATE UNIVERSITY



Bioinformatics Certification Graduate Program

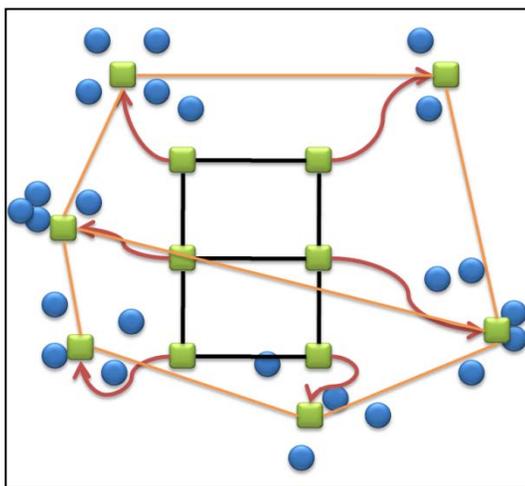
Data-Enabled Cross-training and
Hands-on Experience From a
National Leader in Research and
Multidisciplinary Diversity

Get Serious.
Get a Job.

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, gender, age, religion, disability, or status as a veteran in any of its policies, practices or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural Resources and has been prepared and distributed at a cost of 75-cents

Bioinformatics Mission Statement

The mission of the Bioinformatics Certificate Program is to train post-baccalaureate students in interdisciplinary techniques required to generate, analyze, and interpret complex biologically derived data sets. Departments from across the university participate. A cohesive curriculum provides essential training in bioinformatics and computational biology.



Representation of supervised clustering

Correspondence:

Bioinformatics Certificate Program Committee

c/o Graduate Secretary

bioinformatics@okstate.edu

Dept. Biochemistry & Molecular Biology

246B Noble Research Center

Stillwater, OK 74078

Phone 405-744-9320

Fax 405-744-7799

Curriculum

**Online Courses*

REQUIRED Foundation Courses (hours credit)

MICR 5203 Bioinformatics (3)

BIOC 5930 Bioinformatics Capstone Project (1)

SELECTED Interdisciplinary Courses

Life Sciences Core Courses

BIOC 6820 Bioinformatics Workshop (1-2)

BIOC 6820 Mass Spectrometry Workshop (1-2)

BIOC 6733 Functional Genomics (3)

BIOC 5102 Molecular Genetics (2)

BOT 5553 Molecular Phylogenetic Analysis

AnSci R. programming in animal sciences (1)

Bot 5110-365 Phylogenomics (1)

(Predicted for 2016)

BIOC "Basic bioinformatics" (3)

BIOC "Python for bioinformatics" (3)

MICR "Genome sequence annotation and analysis" (3)

Software-carpentry.org (Planned)

Statistics Core Courses

STAT 6013 Genetic Statistics (3)

STAT 5013 Stat Experimenters I (3)

STAT 5023 Stat Experimenters II (3)

STAT 5093 Statistical Computing (3)

STAT 4203 Math Statistics I (3)**

STAT 4213 Math Statistics II (3)**

** Must be for grad-level-credit

Computer Science Core Courses

CS 5423/5433 Principles of Database

Systems/Distributed Database Systems (3)

CS 5070 Data Structures and Algorithms for
Bioinformatics (3)

CS 4433 Intro to Database Systems (3)

Math Core Courses

MATH 6590 Appl. of Parallel Computing (1)

Software-carpentry.org (Planned)

Elective Courses (3)

Graduate-level course approved by the
Bioinformatics Certificate Program Committee.

Documents for Application:

Transcripts (must have B.S. or equivalent)*

Application Fee*

TOEFL Score*

Curriculum Vitae or resume

A "Personal Statement" of your interest and
goals from the program

Graduate Students must submit letter of support
from major professor

*(*Required by Graduate College)*

Transfer of Courses

With the approval of the Bioinformatics
Certificate Program Committee and the
Graduate College, up to 3 hours of graduate-
level credit from another institution may be
used toward certificate requirements. The GPA
must be at least 3.0 on any transfer credit.

Program Structure

The Certificate requires completion of 16
graduate level course credit hours. A required
capstone project demonstrates mastery of
bioinformatics technologies. A minimum of 12
credit hours must be at the 5000 level or above.