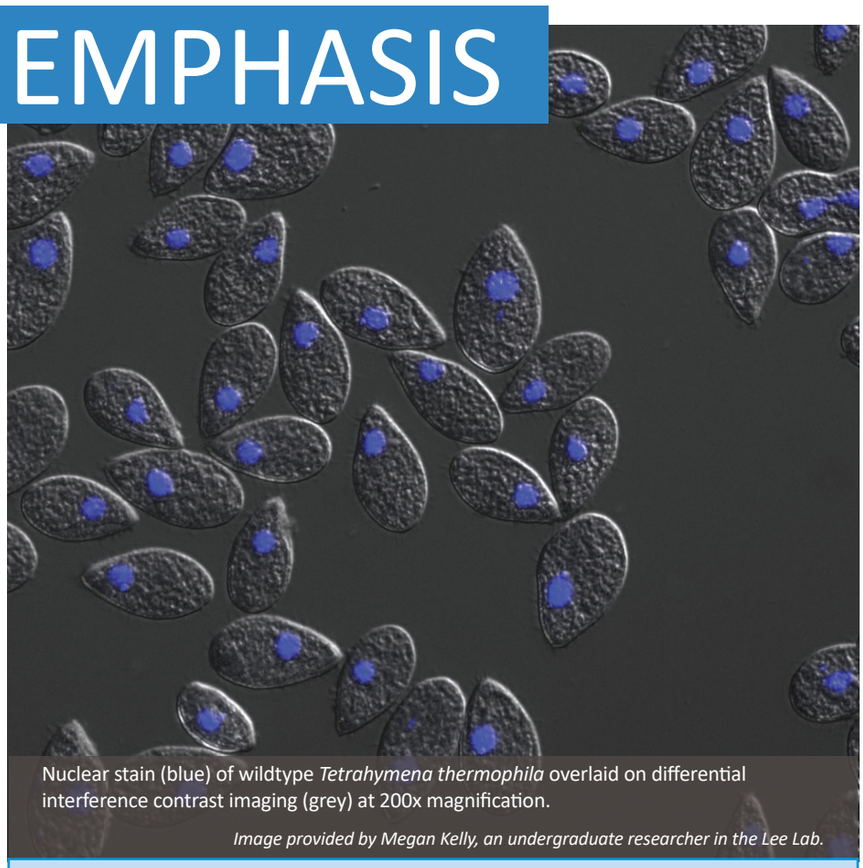
BS BIOLOGY – MOLECULAR & CELL EMPHASIS



Nuclear stain (blue) of wildtype *Tetrahymena thermophila* overlaid on differential interference contrast imaging (grey) at 200x magnification.

Image provided by Megan Kelly, an undergraduate researcher in the Lee Lab.

The MCB Emphasis major is part of an interdisciplinary program between the Biology and Chemistry departments. Cell biology is the study of cells at the biochemical or molecular level. Molecular Biology investigates the interactions among DNA, RNA, and protein synthesis to understand how these interactions are regulated using the tools and principles of genetics and bioinformatics — it is among the most rapidly growing fields, and is making strides with recent accomplishments such as the sequencing of the entire human genome. This program places emphasis on the molecular biology and biochemistry that control cell functions. Students take courses in math, physics, and chemistry, along with the core biology curriculum.

HOT TOPICS

How are biological molecules organized in space and over time?

How do these processes go awry in diseases like cancer and neurodegeneration?

To learn more about this major, visit the university catalog – **catalog.wwu.edu**

For a complete overview of course requirements for this program, access Degree Works via Web4u

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WESTERN WASHINGTON UNIVERSITY
BIOLOGY DEPARTMENT

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STUDENT SPOTLIGHT

"I have really enjoyed doing research in Dr. Suzanne Lee's lab and I love all the lab classes that the Molecular and Cell emphasis offers. One course that I'm taking is giving me the opportunity to study the model organism that I work with in Dr. Lee's lab through microscopy. The collaboration is great for scientific advancement."

- Kerry Roberts-Nygren

SAMPLE CAREER PATHWAYS

Biomedical Research
Pharmaceutical Research
Bioinformatics
Forensic Scientist
Genetic Counselor
Geneticist
Medical Doctor

FACULTY ADVISORS

Marion Brodhagen
Lina Dahlberg
Nick Galati
David Leaf
Suzanne Lee
Lynn Pillitteri
Dan Pollard
Sandra Schulze
José Serrano-Moreno
Anu Singh-Cundy
Adrienne Wang
Jeffrey Young

CURRICULUM HIGHLIGHTS

BIOL 324
Methods in Molecular Biology

BIOL 470
Functional Genomics

CHEM 471
Biochemistry

BIOL 476
Membrane Transport Proteins

BIOL 487
Advanced Molecular and Cell Lab

BIOL 484
Advanced Cell Lab

SAMPLE FIRST YEAR SCHEDULE

ALEKS Score:	FALL	WINTER	SPRING
Prior completion of Calc. 1	BIOL 204 CHEM 161 3-5 cr. non-science GURs	BIOL 205 CHEM 162 3-5 cr. non-science GURs	BIOL 206 CHEM 163 3-5 cr. non-science GURs
80	MATH 124 CHEM 161 3-5 cr. non-science GURs	BIOL 204 CHEM 162 3-5 cr. non-science GURs	BIOL 205 CHEM 163 3-5 cr. non-science GURs
70	MATH 118 CHEM 161 3-5 cr. non-science GURs	MATH 124 CHEM 162 3-5 cr. non-science GURs	BIOL 204 CHEM 163 3-5 cr. non-science GURs
55	MATH 114 7-10 cr. non-science GURs	MATH 115 CHEM 161 3-5 cr. non-science GURs	MATH 124 CHEM 162 3-5 cr. non-science GURs
35	MATH 112 7-10 credits of non-science GURs	MATH 114 7-10 credits of non-science GURs	MATH 115 CHEM 161 3-5 cr. non-science GURs

COURSE LOAD

Due to the heavy workload associated with lab-based courses, students are advised to take no more than two science courses per quarter (including math) during their first year. Course load will increase as students move through their program requirements.

DECLARING A BIOLOGY MAJOR

There is a two-step process for admission into all Biology degree programs. Phase I majors are students who have declared their intent to major in Biology and are in the process of completing the introductory biology and chemistry series (BIOL 204, 205, 206 & CHEM 161, 162, 163). Students must achieve a minimum GPA of 2.9 across these courses before they are advanced to Phase II and may begin taking upper-division courses. During their last quarter of Phase I, students will be required to attend a Phase II Advising Workshop prior to being advanced.

COURSE PLANNING WORKSHEET

	FALL	WINTER	SPRING	SUMMER
Year 1				
Year 2				
Year 3				
Year 4				