

ARIZONA WESTERN COLLEGE  
SYLLABUS

ANS 241 PRINCIPLES OF GENETICS

Credit Hours: 4    Lec 3    Lab 3

Same as PLS 241

PREREQUISITE: None

COURSE DESCRIPTION

Genetic principles of inheritance in plants and animals and their significance in agriculture and biology will be discussed. Topics include the physical basis of heredity in families and populations; introduction to chromosome biology; the molecular basis for gene expression; and modern genetic engineering tools used in animal and plant systems.

## 1. COURSE GOALS

- 1.1. To develop a foundational understanding of principles and concepts of genetics.

2. OUTCOMES

Upon satisfactory completion of this course, students will be able to:

- 2.1. Understand the basic principles of genetics,
- 2.2. Understand the inheritance in families and populations,
- 2.3. Understand the chromosome and genes,
- 2.4. Understand molecular genetics engineering, DNA, RNA, non-coding RNAs testing methods.
- 2.5. Be able to evaluate basic principles of genetics and breeding.

## 3. 3. AWC GENERAL EDUCATION (GE) OUTCOMES

- 3.1. COMMUNICATION
- 3.2. CIVIC DISCOURSE
- 3.3. DIGITAL LITERACY
- 3.4. QUANTITATIVE ANALYSIS
- 3.5. SCIENTIFIC LITERACY

4. METHODS OF INSTRUCTION

- 4.1. Lectures
- 4.2. Laboratory Activities
- 4.3. Slide presentations
- 4.4. Films/videos
- 4.5. Classroom/Field demonstrations
- 4.6. Research project and report
- 4.7. Internet activities

5. LEARNING ACTIVITIES

- 5.1. Assigned reading material
- 5.2. Field/Laboratory trips
- 5.3. Writing Assignments

6. EVALUATION

- 6.1. Laboratory exercises
- 6.2. Quizzes
- 6.3. Written Papers
- 6.4. Final exam or project

7. STUDENT RESPONSIBILITIES

- 7.1. Under AWC Policy, students are expected to attend every session of class in which they are enrolled.
- 7.2. If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility

of the student to withdraw from the course. Students who are not attending as of the 45th day of the course may be withdrawn by the instructor. If the student does not withdraw from the course and fails to complete the requirements of the course, the student will receive a failing grade.

- 7.3. Americans with Disabilities Act Accommodations: Arizona Western College provides academic accommodations to students with disabilities through AccessABILITY Resource Services (ARS). ARS provides reasonable and appropriate accommodations to students who have documented disabilities. It is the responsibility of the student to make the ARS Coordinator aware of the need for accommodations in the classroom prior to the beginning of the semester. Students should follow up with their instructors once the semester begins. To make an appointment call the ARS front desk at (928) 344-7674 or ARS Coordinator at (928) 344-7629, in the College Community Center (3C) building, next to Advising.
- 7.4. Academic Integrity: Any student participating in acts of academic dishonesty—including, but not limited to, copying the work of other students, using unauthorized “crib notes”, plagiarism, stealing tests, or forging an instructor’s signature—will be subject to the procedures and consequences outlined in AWC’s Student Code of Conduct.
- 7.5. Texts and Notebooks: Students are required to obtain the class materials for the course.