

**VIT 123 Course Outline as of Fall 2022****CATALOG INFORMATION**

Dept and Nbr: VIT 123 Title: BUD &amp; GRAFT

Full Title: Budding &amp; Grafting

Last Reviewed: 9/27/2021

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	0.25	Lecture Scheduled	1.00	2	Lecture Scheduled	2.00
Minimum	0.25	Lab Scheduled	4.00	1	Lab Scheduled	8.00
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	10.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 4.00

Total Student Learning Hours: 14.00

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: AG 281.10

**Catalog Description:**

In this course, students will learn all methods of grapevine budding and grafting. Covers methods used to graft over vines in vineyards.

**Prerequisites/Corequisites:****Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100

**Limits on Enrollment:****Schedule of Classes Information:**

Description: In this course, students will learn all methods of grapevine budding and grafting. Covers methods used to graft over vines in vineyards. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>CSU Transfer:</b>		Effective:	Inactive:
<b>UC Transfer:</b>		Effective:	Inactive:

**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Explain the physiology of callus formation for grafting/budding success.
2. Describe various budding and grafting methods.
3. Demonstrate effective chip budding/ T-budding techniques.
4. Recognize scion-rootstock incompatibility symptoms and recommend an action plan.

### **Objectives:**

At the conclusion of this course, the student should be able to:

1. Differentiate between sexual and asexual propagation.
2. Compare and contrast various grapevine propagation methods.
3. Discuss the purpose of budding and grafting for vineyard production.
4. Describe various budding and grafting methods used to graft over existing grapevine.
5. Describe the anatomy and physiology of internal and external budwood structures.
6. Describe practices and techniques necessary to assure that bud wood is virus free.
7. Determine compatibility of vine and rootstock to avoid grafting failure.
8. Describe proper storage and sanitation techniques of budwood.
9. Properly prepare rootstocks and vines for budding and grafting.
10. Explain appropriate practices for post grafting vine care.

### **Topics and Scope:**

- I. Grapevine Propagation
  - A. Sexual
  - B. Asexual
  - C. Advantages and disadvantages of asexual production
- II. Overview of Grapevine Propagation Methods
  - A. Scion
  - B. Rootstock
- III. Purpose of Budding and Grafting
- IV. Safety Training - Use of Grafting Knives and Pruning Shears\*
- V. Budding and Grafting Methods

- A. Field budding
  - B. "T" budding
  - C. Grafting over in the field
  - D. Bench grafting
  - E. Advantages and disadvantages of each method
- VI. Budwood
- A. Physiology and morphology of budwood
    - 1. External structure
    - 2. Internal structure
  - B. Collection
  - C. Sanitation
  - D. Virus testing to assure clean budwood
  - E. Storage
  - F. Certified budwood vs. field selections
- VII. Incompatibility Concerns
- A. Genetic
  - B. Virus diseases
  - C. Fungal diseases
- VIII. Preparation for Grafting and Budding
- A. Timeliness
  - B. Vine characteristics (age of propagation wood and age of vine)
- IX. Post Grafting Care
- A. Irrigation
  - B. Fertilization
  - C. New shoots training

\*Topic included in Lab only.

All other topics are covered in both the lecture and lab portions of the course.

**Assignment:**

Lecture-related assignment

1. Reading assignments before attending class (approximately 4 hours)

Lab-related assignments

1. Collect bud wood for rootstock and scion (20 canes of each) to make grafted vines
2. Perform three field grafts in student vineyard
3. Final exam

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None

Problem solving  
0 - 0%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Collect bud wood for rootstock and scion (20 canes of each) to make grafted vines. Perform three field grafts in student vineyard.

Skill Demonstrations  
50 - 50%

**Exams:** All forms of formal testing, other than skill performance exams.

Final Exam

Exams  
50 - 50%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

**Representative Textbooks and Materials:**

Instructor prepared materials.