

BIOL-8 Laboratory Protocols

Overview

This directory contains laboratory protocols for BIOL-8: Human Biology (College of the Redwoods, Del Norte Campus, Spring 2026). Labs are designed to provide hands-on experience with biological concepts covered in the lecture modules.

Lab Inventory

Lab	Topic	Status	Related Module
Lab 01	Introduction to Scientific Measurement	Complete	Module 01
Lab 02	Chemistry of Life	Stub	Module 02
Lab 03	Biomolecules	Stub	Module 03
Lab 04	Cellular Function	Stub	Module 04
Lab 05	Membranes	Stub	Module 05
Lab 06	Metabolism	Stub	Module 06
Lab 07	Mitosis	Stub	Module 07
Lab 08	Meiosis	Stub	Module 08
Lab 09	Inheritance	Stub	Module 09
Lab 10	Tissues	Stub	Module 10
Lab 11	Skeletal System	Stub	Module 11
Lab 12	Muscular System	Stub	Module 12
Lab 13	Pathogens	Stub	Module 13
Lab 14	Cardiovascular System	Stub	Module 14
Lab 15	Respiratory System	Stub	Module 15

Lab Format

Labs use specialized markdown directives for interactive elements:

- **Data Tables:** `<!-- lab:data-table -->` for fillable data collection
- **Reflection Boxes:** `<!-- lab:reflection -->` for open-ended responses
- **Object Selection:** `<!-- lab:object-selection -->` for choosing study subjects
- **Feasibility Analysis:** `<!-- lab:measurement-feasibility -->` for constraint evaluation
- **Fillable Fields:** `{fill:text}` , `{fill:textarea rows=N}` for inline inputs

See [Lab 01](#) as the reference implementation for the full directive syntax.

Output Generation

Labs are processed through the `lab_manual` module to generate multi-format outputs:

```
cd software
uv run python -c "
from src.lab_manual.main import render_lab_manual, batch_render_lab_manual

# Generate single lab
render_lab_manual(
    '../course_development/biol-8/course/labs/lab-01_measurement-methods.pdf',
    '../course_development/biol-8/course/labs/output/lab-01_measurement-methods.pdf',
    course_name='BIOL-8: Human Biology'
)

# Generate all labs (batch)
batch_render_lab_manuals(
    '../course_development/biol-8/course/labs',
    '../course_development/biol-8/course/labs/output',
    'pdf',
    course_name='BIOL-8: Human Biology'
)
"
```

Output Directory

Generated files are stored in `output/`:

- `*.pdf` - Printable lab worksheets
- `*.html` - Interactive web versions with auto-saving fillable fields

Naming Convention

Labs follow the pattern: `lab-XX_topic-name.md`

- `XX` = Two-digit lab number (01-15)
- `topic-name` = Hyphenated topic description

Related Documentation

- [Course README](#) - Course materials overview
- [Course AGENTS.md](#) - Technical documentation
- [Software Lab Manual Docs](#) - Lab manual module documentation