

Comprehensive
Program
Of
Biology
For
AY 2019-2021

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2021-2022



Independence
COMMUNITY COLLEGE

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1.0 Program Data and Resource Repository

1.1 Program Summary

The program should provide a descriptive summary of the program.

Narrative:

The Biology program at Independence Community College offers introductory courses in Biology including: Biology I, Biology II, Anatomy and Physiology, and Microbiology as well as electives such as Nutrition and Medical Terminology. In addition to forming the foundation for the Associate of Science degree in Biology, majors Biology courses support the Athletic Training, Engineering, Math, and Physical Science (EMP), General Studies, Liberal Studies, Pre-nursing, and Veterinary Nursing degree programs. Biology faculty additionally teach General Biology to fulfill degree requirements for other programs. The Biology program aims to provide students a foundation to facilitate continuing education in any biological field at a four-year college or in a health-related program.

ICC employs two full time faculty members and additional adjunct faculty. The full-time faculty members have diverse educational backgrounds. Dr. Chaplin's specialization includes cellular and molecular biology, human physiology, and neurobiology, while Dr. Weaver's specialization includes human anatomy and healthcare. The faculty's strengths complement the Biology Program course offerings at Independence Community College. Students attending the Biology program at ICC benefit from small class sizes, allowing students to receive individualized attention, ample opportunities for active class participation, and accurate advisement.

Studying Biology increases an understanding and appreciation of living organisms, their interactions with the environment, and interaction with each other. In addition, studying Biology fosters scientific thinking, reasoning, and problem-solving skills.

Biologists work in diverse fields such as healthcare, research, wildlife management and conservation, physical therapy, education, biotechnology, pharmaceuticals, agriculture, forensic science, law, and others.

The two-year associate degree in Biology at Independence Community College is designed as a transfer program for completion at a four-year institution or for completion in a healthcare-related program.

1.2 Quantitative and Qualitative Data

All programs are provided with the most recent two years of data by the Office of Institutional Research (IR) as well as two-year budget data provided by the Business Office.

The data sets provided by the Office of Institutional Research include the following elements for the most recent two (completed) academic years:

- Number of Faculty (Full Time; Part Time; Total)
- Student Credit Hours by Faculty Type
- Enrollment by Faculty Type
- Faculty Name by Type
- Average Class Size, Completion, and Attrition
- Course Completion, Success and Attrition by Distance Learning v Face-to-Face
- Number of Degrees/Certificates Awarded
- Number of Graduates Transferring (if available from IR)
- Number of Graduates Working in Related Field (technical programs only)
- Expenditures and Revenues

Additional data may also be available for reporting from the Office of Institutional Research, as applicable. Requests for additional data must be made through a data request.

(See Section 1.2 in the Program Review Handbook for more information.)

Narrative:

Biology Program Review Data AY 2019-2020:

All courses with a BIO course code except General Biology (Gen Bio for non-majors is separated):

Number of Faculty:

Full-time: 2 (Weaver, Chaplin)

Part-time: 0

Enrollment & Student credit hours by Faculty type:

Full-time: 51 total credit hours taught, 139 total students enrolled

Part-time: 0 credit hours taught, 0 total students enrolled

Average Class size:

10.9 students in Face-to-Face classes
17.3 students in online
classes 12.6 students across
all courses

Completion rates:

80.4% face-to-face
92.3% online
84.9% all courses

**Pass ('D' or better)
rates:**

87.1% face-to-face
83.3% online
85.6% all courses

**Pass ('C' or better)
rates:**

81.4% face-to-face
83.3% online
82.2% all courses

Number of Majors: 9 (3 returned in Fall 2019)

Degrees Awarded: 0

Gen Bio only data:**Average Class size:**

17.7 students in Face-to-Face classes
14.7 students in online
classes 16.8 students across
all courses

Completion rates:

91.1% face-to-face
65.9% online
84.5% all courses

**Pass ('D' or better)
rates:**

92.9% face-to-face
96.6% online
96.7% all courses

**Pass ('C' or better)
rates:**

85.8% face-to-face
89.7% online
86.6% all courses

Biology Program Review Data AY 2020-2021:

All courses with a BIO course code except General Biology (Gen Bio for non-majors is separated):

Number of Faculty:

Full-time: 2 (Chaplin, Weaver)
Adjunct: 2 (Kittrell, Chambers)

**Enrollment & Student credit hours by Faculty
type:**

Full time: 42 total credit hours taught, with 104 total students enrolled
Adjunct: 10 credit hours taught, 16 total students enrolled

Average Class size:

9.8 students in Face-to-Face or Hybrid classes
10.2 students in online
classes 10.0 students across
all courses

Completion rates:

96.61% face-to-face/hybrid
95.08% online
95.83% all courses

**Pass ('D' or better)
rates:**

91.23% face-to-face/hybrid
79.31% online

85.22% all courses
**Pass ('C' or better)
rates:**

87.72% face-to-face/hybrid
74.14% online
80.87% all courses

Number of Majors: 5 (1 returned in Fall 2021)

Degrees Awarded: 1

Gen Bio only data:

Number of Faculty:
Full-time: 2 (Chaplin, Weaver)
Adjunct: 1 (Reynolds)

**Enrollment & Student credit hours by Faculty
type:**

Full time: 45 total credit hours taught, with 164 total students
enrolled Adjunct: 10 credit hours taught, 26 total students
enrolled

Average Class size:
17.3 students in Face-to-Face or Hybrid classes
17.3 students in online
classes 17.3 students across
all courses

Completion rates:
92.75% face-to-face/hybrid
75.00% online
87.89% all courses

**Pass ('D' or better)
rates:**

92.97% face-to-face/hybrid
79.49% online
89.82% all courses

**Pass ('C' or better)
rates:**

86.72% face-to-face/hybrid
69.23% online
82.63% all courses

The Biology Program saw an increase in enrollment and completion between the two academic years. This is also an increase over prior years' enrollment (data not shown). and additionally saw an increase in student graduation from the program.

PENDING APPROVAL

2.0 Student Success

2.1 Define Student Success

The program faculty should provide a definition of how student success is defined by the program. *(See Section 2.1 in the Program Review Handbook for more information.)*

Narrative:

Student success in Biology coursework at ICC consists of students acquiring a set of skills and competencies including data acquisition and interpretation, competence in laboratory techniques, critical thinking, knowledge of the dynamic processes involved in living systems, and appreciation of the relationships between living and nonliving components of natural processes.

Student success is evaluated through assessment measures that correlate to the course outcomes. These measures consist of test questions and test scores, assignment questions and assignment scores, assessment of laboratory exercises, and other knowledge-based activities throughout the courses offered. Student success is accomplished if at least 70% of students who complete assessed assignments receive at least 70% of the total combined points possible for the assignments.

2.2 Achieve/Promote Student Success

The program faculty should describe how the program achieves and promotes student success. *(See Section 2.2 in the Program Review Handbook for more information.)*

Narrative:

The Biology program at ICC promotes student success through one-on-one relationships with students and colleagues, innovation of teaching strategies, refinement of course offerings to better meet students' needs, continual exploration of new ways to engage students with discipline-related content, and continuing education of faculty to remain up-to-date on scholarly work and technology involved in the discipline.

The Biology program strives to maintain academic rigor and excellence to ensure that students preparing for a career in any branch of biological science have a solid foundation. This includes increasing student completion rates by improving services provided and implementing current best practices in teaching. In addition, the Biology program provides creative ways to engage students in active learning, reflection, and rebalancing numbers of sections of each course in response to enrollment figures.

3.0 Assessment of Student Learning Outcomes

3.1 Reflection on assessment

The program faculty should provide a narrative reflection on the assessment of program curriculum. Please provide data gathered for outcomes at both program, course, and general education levels. Please review the Assessment Handbook for resources on gathering this information provided by the Assessment Committee.

Narrative:

Meeting a course-level learning outcome indicates each measure for that outcome was met (when applicable). In general, a measure is met if 70% of the students assessed have received at least 70% of the total number of possible points on that measure. Program-level outcomes are met if 70% of students who complete a course tied to that outcome in an academic year receive a “C” letter grade or better in that course.

3.2 Significant Assessment Findings

The program faculty should provide a narrative overview of the program's significant student learning outcomes assessment findings, any associated impact on curriculum, as well as any ongoing assessment plans. The program may attach data charts, assessment reports or other relevant materials. *(See Section 3.2 in the Program Review Handbook for more information.)*

Narrative:

Course-level outcomes have assisted the department in identifying concept areas in which students require either more focus or different learning strategies. Instructors are continually working to improve coursework as well as clarify course expectations with student advisors to better prepare incoming students for coursework in this subject.

The results of this assessment period have been confounded by the disruption of more traditional learning styles, beginning in the Spring 2020 semester and continuing throughout the following academic year, by the impacts of COVID-19.

Program-level outcomes had previously not been utilized to assess student success at this level and are therefore difficult to interpret, however fitting these outcomes to previous data appears to track closely with the current assessment (data not shown).

3.3 Ongoing Assessment Plans

The program faculty should describe ongoing assessment plans and attach any new assessment progress reports for the current or past academic year.

Narrative:

Ideally, individual course learning outcomes assessment measures should include (when possible) a short-term comprehension assignment, a long-term comprehension assignment, and an active learning assignment as measures. This template will be more evenly applied in future assessments. Current program-level and course-level outcome reports are in Appendix A and Appendix B respectively.

4.0 External Constituency and Significant Trends

An important component of maintaining a superior program lies in awareness and understanding of other possible factors that may impact the program and/or student outcomes. After consideration of these other factors, program faculty should document the relevant information within this section. As applicable, this should include the following.

- Include Advisory Member Name/ Title/ Organization/ Length of Service on committee; note the Committee Chair with an asterisk (*).
- Upload meeting minutes from the previous spring and fall semesters and attach in the appendices section (10.0).

4.1: Program Advisory Committee:

Narrative:

This program does not have an advisory board.

4.2: Specialized Accreditation:

- Include Accrediting Agency title, abbreviation, ICC contact; Agency contact, Date of Last Visit, Reaffirmation, Next Visit, FY Projected Accreditation Budget.
- Upload the most recent self-study and site visit documents.
- Upload agency correspondence which confirm accreditation status.

Narrative:

This program does not receive specialized accreditation.

4.3: Other:

Discuss any external constituencies that may apply to the program. *(See Section 4.3 in the Program Review Handbook for more information.)*

Narrative:

HLC Accreditation:

The College's regional accrediting body, the Higher Learning Commission (HLC), ensures that the institution is providing high quality education. Core Components 3 and 4 are particularly relevant to ensuring classroom and programs standards in this area.

Kansas Board of Regents:

Statewide Transfer and Articulation Agreements have been designated for the following courses:

- General Biology
- Biology I
- Biology II
- Anatomy and Physiology
- Microbiology
- Nutrition
- Medical Terminology
- Environmental Science

5.0 Curriculum Reflection

5.1 Reflection on Current Curriculum

The program faculty should provide a narrative reflection that describes the program's curriculum holistically. The following are prompts formulated to guide thinking/reflection on curriculum. While presented in question form, the intent of the prompts is to stimulate thought and it is not expected that programs specifically answer each and every question.

- Is the curriculum of the program appropriate to the breadth, depth, and level of the discipline?
- How does this program transfer to four-year universities? (give specific examples)
- What types of jobs can students get after being in your program? (Please use state and national data)
- How dynamic is the curriculum? When was the last reform or overhaul?
- In the wake of globalization, how “internationalized” is the curriculum?
- How does the program assess diversity?
- Does the program have any community-based learning components in the curriculum?

Narrative:

An Associate of Science degree in Biology requires a completed application, completion of 61-63 credit hours, including the fulfillment of all program and degree requirements, and a cumulative GPA of 2.0 or better.

This degree is intended to enable students to satisfy equivalent lower-division college credit course requirements and transfer, with advanced standing, into comparable Bachelor of Science Degree programs at Kansas Regents universities or to enter a healthcare program at another college or university.

After researching degree requirements for the seven four-year universities in Kansas, it is apparent that a restructuring of curriculum requirements for this degree is warranted. Four of these seven universities do not accept BIO2045 (Anatomy and Physiology), and three of these do not accept BIO2055 (Microbiology) as courses directly applicable to meeting the requirements for equivalent majors' Biology courses for their institution. Allowing more flexibility between Biology and General Studies courses should better serve students seeking this degree from our institution.

Receiving an Associate of Science degree in this program does not directly result in specific employment opportunities.

Courses are organized and structured to interconnect cumulative knowledge with growing proficiencies within each course for an overall informative experience of the program.

Diversity has not been assessed in this program.

Courses are continually modified across outcomes through assessment, interaction with transfer institution, and changes in the knowledge base and techniques employed by the profession.

There is not a community-based learning component to this program.

5.2 Degree and Certificate Offerings or Support

Program faculty should list what degrees and certificates are offered and/or describe how the program curriculum supports other degrees and/or certificates awarded by the college.

Narrative:

The Biology Program awards an Associate of Science Degree in Biology. Majors Biology courses also support the Athletic Training, Engineering, Math, and Physical Science (EMP), General Studies, Liberal Studies, Pre-nursing, and Veterinary Nursing degree programs.

6.0 Faculty Success

The program faculty should highlight noteworthy accomplishments of individual faculty.

6.1 Program Accomplishments

Narrative:

The Biology program has expanded both the total number of students served and the quality of instruction during the period of this review. The Biology program has seen an increase in enrollment both within the time period assess for this review, and compared with prior enrollment (data not shown). The department has procured key laboratory equipment essential for teaching a modern molecular biology lab and additionally upgraded several pieces of ageing equipment. The lab benches in AC201 have also been upgraded to better facilitate student use.

6.2 Faculty Accomplishments

The program faculty should highlight noteworthy program accomplishments.

Narrative:

The Biology program was able to maintain rigor and student success in the wake of shifting classroom conditions brought about by the coronavirus pandemic. This included revising course schedules and activities to facilitate short- and long-term campus closures, social distancing protocols, and extended student and instructor absences.

6.3 Innovative Research, Teaching and Community Service

The program faculty should describe how faculty members are encouraged and engaged in promoting innovative research, teaching, and community service.

Narrative:

The faculty in this program were involved the ICC Kids College and the Independence Bible School Science Fair.

7.0 Program Planning & Development for Student Success

7.1 Narrative Reflection on Qualitative and Quantitative Data and Trends

Provide a thoughtful reflection on the available assessment data. *(See Section 7.1 in the Program Review Handbook examples.)*

Narrative:

Over the period reviewed, the Biology department experienced an increase in overall course enrollment and moderate success in achieving educational outcomes. At the same time, enrollment in the Biology degree program declined. Biology faculty have been constrained by the stated program curriculum. In order to better fit their educational needs, Biology faculty have at times advised students interested in this career field to forego completion or enrollment in this program and instead enroll in the Associate of Science in Liberal Arts.

7.2 Academic Program Vitality Reflection, Goals and Action Plans

The program vitality assessment, goals and action planning are documented by completing the Program Summative Assessment form.

Programs should use previous reflection and discussion as a basis for considering program indicators of demand, quality, and resource utilization and a program self-assessment of overall program vitality. *(See Section 7.2 in the Program Review Handbook for more information.)*

Narrative:

Circle One: Maintain Current Levels of Support
 Potential Enhancement Opportunities
 Revitalization Opportunities/Needs
 Phase out

As stated in Section 5.2 and 7.1, the rigidity of the Associate Degree in Biology curriculum as stated in the Independence Community College course catalog does not adequately serve all students who, after completion, would seek a bachelor's degree in Biology at a Kansas 4-year institution. Creating multiple tracks, with opportunities for students exchange some Biology courses (BIO2045 and/or BIO2055) with transferrable general education credits would improve the department's ability to better advise and serve the student body.

Although program enrollment is low and completion does not directly prepare students for specialized employment, maintaining this program is vital to efficiently connect students

interested in the discipline with appropriate academic advisors. Therefore, we request the continuation of the program as an option for students attending ICC.

7.3 Academic Program Goals and Action Plans

Programs will also establish or update 3 to 5 long-term and short-term goals and associated action plans which support student success. These goals should include consideration of co-curricular and faculty development activities. Long-term goals are considered to be those that extend 3 to 5 years out, while short-term goals are those that would be accomplished in the next 1 to 2 years. Additionally, programs should update status on current goals. Programs should use S.M.A.R.T. goal setting for this purpose. (See Section 7.3 in the Program Review Handbook for more information.)

Narrative:

The program aims to revise the curriculum requirements to better align with regional 4-year university degree plans. This should be accomplished prior to publication of the 2023-2024 course catalog.

The program aims to develop 1-2 additional electives in the field to enhance enrollment for both Biology majors and nonmajors students. This should begin with the 2022-2023 academic year and continue as needed to better serve the student body.

The program aims to continue replacement of ageing laboratory equipment to enhance students' experience in the classroom. This was initiated during the 2020-2021 academic year and has been a significant expenditure of the department's budget.

- Six laboratory balances (scales) were purchased in May 2021
- Five new compound microscopes were purchased in May 2022
- An additional seven new compound scopes will be purchased as the budget allows in the next three years
- Six new stirring/ hotplates will also be purchased in the next three years as the budget allows.

The program aims to construct a budget request to revitalize the laboratory facilities in AC203. AC201 received an overhaul in the 2020-2021 academic year, and the workspaces in AC203, while still adequate, will need to be addressed in the future. This goal may be extended to the long-term depending on budget conditions.

- Laboratory benchtops are showing some signs of deterioration
- Gas/water lines are also showing some minor deterioration
- Sink basins are stained and showing some signs of deterioration

7.4 Mission and Strategic Plan Alignment

Program faculty should indicate the ways in which the program's offerings align with the ICC mission. Also, in this section program faculty should provide narrative on the ways that initiatives may be tied to the ICC Strategic Plan and to HLC accreditation criterion. It is not necessary to consider an example for each HLC category, but program faculty are encouraged to provide one or two examples of initiatives in their program that are noteworthy. These examples may be helpful and included in future campus reporting to HLC. (Refer to section 4.3 for HLC categories)

Narrative:

The mission of ICC states “Independence Community College serves the best interests of students and the community by providing academic excellence while promoting cultural enrichment and economic development.” The Biology program aligns with this mission by providing academic excellence and opportunities for cultural enrichment to our students. The curriculum of the program utilizes modern concepts and techniques, emphasizes the scientific method and problem solving, and strives to connect topics with real-world applications and events. The education of students in this program enhances their ability to approach issues within their communities and businesses in an informed and data-driven manner.

This program meets HLC Core Component 3.A.1: Courses and programs are current and require levels of performance by students appropriate to the degree or certificate awarded. The program meets the core component by offering the first two years of a four-year degree.

8.0 Fiscal Resource Requests/Adjustments

8.1 Budget Requests/Adjustments

Based on program data review, planning and development for student success, program faculty will complete and attach the budget worksheets to identify proposed resource needs and adjustments. These worksheets will be available through request from the college's Chief Financial Officer. Program faculty should explicitly state their needs/desires along with the financial amount required.

Programs should include some or all of the following, as applicable, in their annual budget proposals:

- Budget Projections (personnel and operation)
- Position Change Requests
- Educational Technology Support
- Instructional Technology Requests
- Facilities/Remodeling Requests
- Capital Equipment
- Non-Capital Furniture & Equipment
- New Capital Furniture & Equipment
- Replacement Capital Furniture & Equipment
- Other, as applicable
- Accreditation Fee Request
- Membership Fee Request
- Coordinating Reports

Resource requests should follow budgeting guidelines as approved by the Board of Trustees for each fiscal year. The resource requests should be used to provide summary and detailed information to the division Dean and other decision-makers and to inform financial decisions made throughout the year.

Narrative:

Biology Budget Worksheet:

INDEPENDENCE COMMUNITY COLLEGE					
Biology					
For the Nine Months Ending Thursday, March 31, 2022					
		Operating Budget	Expense	Encumbered	Remaining
	Fund 11				
	Expenses				
11-510:550	Salary	\$116,600.04	\$90,923.69		\$25,676.35
11-591:596	Fringe Benefits	40,263.96	24,828.87		15,435.09
11-601:601	Travel	1,500.00			1,500.00
11-648:649	Repairs	2,499.96	462.27		2,037.69
11-700:700	Instructional Supplies	7,500.00	1,962.65		5,537.35
11-701	Office Supplies	999.96			999.96
11-717:718	Professional Development	2,000.04	55.00		1,945.04
	Total	171,363.96	118,232.48		53,131.48

The Biology department faculty feel current funding levels are adequate to accomplish the goals of general lecture and laboratory operation, with remaining funding necessary for replacement of ageing equipment and repairs. Therefore, we request current funding levels be maintained or slightly increased to compensate for increased shipping and manufacturing costs of materials and instruments. A special budget request will be required to revitalize AC203.

9.0 Program Planning and Development Participation

9.1 Faculty and Staff

Program faculty will provide a brief narrative of how faculty and staff participated in the program review, planning and development process. List the preparer(s) by name(s).

Narrative:

This document was originally authored by Biology department faculty member Thomas Weaver and revised by Biology department faculty member Nathan Chaplin. Additional data was supplied by Director of Institutional Research, Anita Chappuie. The document was submitted to the Math and Science division chair, Brian Southworth, and Vice President of Academic Affairs, Taylor Crawshaw, for review and final approval.

9.2 VPAA and/or Administrative Designee Response

After review and reflection of the *Comprehensive Program Review* or the *Annual Program Review*, the Division Chair and VPAA will write a summary of their response to the evidence provided. The Division Chair and VPAA's response will be available to programs for review and discussion prior to beginning the next annual planning and development cycle.

Narrative:

Program Review Committee: PRC agrees with the recommendations of program faculty provided in this review. ASC

Division Chair: I agree with the Comprehensive Review as written. However, I would like to see some preliminary numbers for the revitalization of AC203. Brian Southworth.

Vice President for Academic Affairs: I agree with the data and information provided in this program review. A focus for Biology program should be the investigation of possible electives, potential 2+2 partners, and developing requests for AC203 in future semesters. TCC

10.0 Appendices

Any additional information that the programs would like to provide may be included in this section.

Appendix A: Program-level Assessment Data AY 2019-2020 and AY2020-2021

Program-level Outcomes and Assessment
As a result of earning an AS degree in Biology, students will be able to:
1. Demonstrate an understanding of the major concepts of modern cellular biology, including cellular physiology, information flow, and reproduction.
This program outcome is tied to Cellular/Molecular Biology (BIO1115) <i>The Program Outcomes will be considered met if 70% of the students in class(es) tied to outcome receive a grade of "C" or better.</i> AY2019-2020: 69% of students (11 of 16) passed this course with a grade of "C" or better. This outcome was nearly met. AY2020-2021: 86% of students (12 of 14) passed this course with a grade of "C" or better. This outcome was met.
2. Demonstrate an understanding of the structure of the human body, and the functions of its various organ systems.
This program outcome is tied to Anatomy and Physiology (BIO2045) AY2019-2020: 79% of students (33 of 42) passed this course with a grade of "C" or better. This outcome was met. AY2020-2021: 82% of students (37 of 45) passed this course with a grade of "C" or better. This outcome was met.
3. Describe the unity and diversity of living species and their relationship with other terrestrial natural processes.
This program outcome is tied to Organismal Biology (BIO2115) AY2019-2020: 80% of students (4 of 5) passed this course with a grade of "C" or better. This outcome was met. AY2020-2021: 100% of students (2 of 2) passed this course with a grade of "C" or better. This outcome was met.

4. Describe the characteristics of microorganisms and their impact on human health and well-being.

This program outcome is tied to Microbiology (BIO2055)

AY2019-2020: 88% of students (15 of 17) passed this course with a grade of “C” or better. This outcome was met.

AY2020-2021: 100% of students (11 of 11) passed this course with a grade of “C” or better. This outcome was met.

5. Gain proficiency with common Biology-associated lab techniques and tools including molecular biology techniques, microscopy, dissection, and culturing techniques

This program outcome is tied to Cellular/Molecular Biology (BIO1115), Anatomy and Physiology (BIO2045), Organismal Biology (BIO2115), and Microbiology (BIO2055)

AY2019-2020: 80% of students (63 of 79) passed this course with a grade of “C” or better. This outcome was met.

AY2020-2021: 86% of students (62 of 72) passed this course with a grade of “C” or better. This outcome was met.

Assessment Report for **General Biology/ BIO 1005 L0001**

Term: Fall 2019, Prepared by Nathan Chaplin

Summary Table:

Learning Outcome: KBOR aligned	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Describe the nature of science.	Partially Met	Expanding active learning activities
2. Identify and describe the levels of organization and emergent properties of life.	Partially Met	Expanding active learning activities
3. Describe the principles of bioenergetics.	Partially Met	Expanding active learning activities
4. Describe the importance of reproduction in maintaining the continuity of life.	Partially Met	Expanding active learning activities
5. Define and apply the principles of genetics to the unity and diversity of life.	Partially Met	Expanding active learning activities
6. Describe Evolution as the mechanism of change in Biology.	Partially Met	Expanding active learning activities
7. Identify and describe the Principles of Ecology	Partially Met	Expanding active learning activities
8. Demonstrate an understanding of the lecture topics through application of lab skills:	Met	none

Assessment Report for ***General Biology/ BIO 1005 L0002***

Term: Fall 2019, Prepared by Nathan Chaplin

Summary Table

KBOR Learning Outcomes	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Describe the nature of science.	Partially Met	Expanding active learning activities
2. Identify and describe the levels of organization and emergent properties of life.	Partially Met	Expanding active learning activities
3. Describe the principles of bioenergetics.	Partially Met	Expanding active learning activities
4. Describe the importance of reproduction in maintaining the continuity of life.	Partially Met	Expanding active learning activities
5. Define and apply the principles of genetics to the unity and diversity of life.	Partially Met	Expanding active learning activities
6. Describe Evolution as the mechanism of change in Biology.	Not Met	Expanding active learning activities
7. Identify and describe the Principles of Ecology	Met	none
8. Demonstrate an understanding of the lecture topics through application of lab skills:	Met	none

Assessment Report for **General Biology (Online)/BIO 1005 ON01**
Term: Fall 2019, Prepared by Nathan Chaplin

Summary Table

KBOR aligned Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Describe the nature of science.	Partially Met	Development of supplements related to scientific inquiry.
2. Identify and describe the levels of organization and emergent properties of life.	Partially Met	Enhance student learning of emergent properties of cells through developing supplements in this topic area
3. Describe the principles of bioenergetics.	Met	none
4. Describe the importance of reproduction in maintaining the continuity of life.	Partially Met	Development of supplements related to meiosis/ sexual life cycles.
5. Define and apply the principles of genetics to the unity and diversity of life.	Partially Met	Provide more resources/ activities for topics in molecular genetics.
6. Describe Evolution as the mechanism of change in Biology	Met	none
7. Identify and describe the Principles of Ecology	Met	none
8. Demonstrate an understanding of the lecture topics through application of lab skills.	Met	none

Assessment Report for **Biology I: Principles of Cellular and Molecular Biology/ BIO 1115**

Term: Fall 2019, Prepared by Nathan Chaplin

Summary Table

Learning Outcome- KBOR	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Demonstrate an understanding of the nature of science.	Met	none
2. Demonstrate an understanding of the levels of organization and emergent properties of life.	Partially Met	More active learning opportunities will be given in future sections
3. Demonstrate an understanding of bioenergetics.	Partially Met	More active learning opportunities will be given in future sections.
4. Demonstrate an understanding of cellular reproduction.	Partially Met	More active learning opportunities will be given in future sections. Course progression order will be modified.
5. Identify the basic principles of Mendelian and molecular genetics, and relate these to the basic principles of Natural Selection and evolution.	Not Met	More active learning opportunities will be given in future sections. Course progression order will be modified.
6. Design and perform experiments in a laboratory setting.	Met	None

Assessment Report for *Anatomy & Physiology*

Term: Fall 2019 [prepared by Thomas Weaver]

BIO2045/Lecture/0002

Anatomy and Physiology Outcomes:

1. Identify the various levels of biological structures and the language used to describe them:
 - a. be able to use anatomical terminology,
 - b. explain homeostasis,
 - c. identify cellular structures and their functions,
 - d. identify and describe tissue types and their location in the human body.
2. Identify and describe the systems associated with body covering, support, and movement.
3. Identify and describe systems that integrate, regulate, and control the activities of the body, including the nervous system, special senses, and the endocrine system.
4. Identify and describe the systems responsible for fluid equilibrium, transport and gas exchange in the body, including the cardiovascular system, the lymphatic system, and the respiratory system.
5. Identify and describe the systems that relate to environmental exchange and reproduction including the digestive system, urinary system, and the reproductive system.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Test 1	Outcomes met: 1,2	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Heart Lab	Outcomes met: 4	Direct measure, 1. 70% of students achieve at least 70%	None	Students responded well to this measure

		2. Every student participates in the lab and at least 70% on the lab assignment.		
Tissue system worksheet	Outomes met: 1	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Integumentary system worksheet	Outomes met: 2	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Test 2	Outomes met: 2, 3	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Test 3	Outomes met: 4, 5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure

Final exam	Outomes met: 1,2, 3, 4, 5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Brain dissection	Outomes met: 3	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Urinary lab	Outomes met: 5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Digestion lab on pig	Outomes met: 5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure

Strengths	Weaknesses	Additional comments

The type of labs and lectures seemed to very productive for learning. Students in this course seemed to respond better to the material. There were not athletes in this course, therefore attendance was much better than the earlier course this semester.	The temperature fluctuated in the classroom all semester creating a <u>very</u> difficult learning environment for the students, especially on lab days during dissection.	I would still like to add virtual technology to the classroom to add excitement and motivation.
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Assessment Report for *Anatomy & Physiology*

Term: Fall 2019

BIO2045/Lecture/0001 [prepared by Thomas Weaver]

Anatomy and Physiology Outcomes:

1. Identify the various levels of biological structures and the language used to describe them:
 - a. be able to use anatomical terminology,
 - b. explain homeostasis,
 - c. identify cellular structures and their functions,
 - d. identify and describe tissue types and their location in the human body.
2. Identify and describe the systems associated with body covering, support, and movement.
3. Identify and describe systems that integrate, regulate, and control the activities of the body, including the nervous system, special senses, and the endocrine system.
4. Identify and describe the systems responsible for fluid equilibrium, transport and gas exchange in the body, including the cardiovascular system, the lymphatic system, and the respiratory system.
5. Identify and describe the systems that relate to environmental exchange and reproduction including the digestive system, urinary system, and the reproductive system.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Test 1	Outcomes met: 1,2	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Heart Lab	Outcomes met: 4	Direct measure, 1. 70% of students achieve at least 70%	None	Students responded well to this measure

		2. Every student participates in the lab and at least 70% on the lab assignment.		
Tissue system worksheet	Outomes met: 1	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Integumentary system worksheet	Outomes met: 2	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Test 2	Outomes met: 2, 3	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Test 3	Outomes met: 4, 5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure

Final exam	Outomes met: 1,2, 3, 4, 5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Brain dissection	Outomes met: 3	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Urinary lab	Outomes met: 5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Digestion lab on pig	Outomes met: 5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure

Strengths	Weaknesses	Additional comments

The type of labs and lectures seemed to very productive for learning	Students reported that they would like a few more worksheets over material to learn the material.	I would still like to add virtual technology to the classroom to add excitement and motivation. I will add more worksheets to the class for additional learning material
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Assessment Report for **General Biology**
Term: Fall 2019
BIO1005/Lecture/0004
&
BIO1005/Lecture/0003 [prepared by Thomas Weaver]

Biology II Outcomes:

1. Describe the nature of science.
 - Scientific Processes
 - Scientific Methods
2. Identify and describe the levels of organization and emergent properties of life.
 - Chemical
 - Cellular
 - Organ/Organ System
 - Organismal
 - Ecological
3. Describe the principles of Bioenergetics.
 - Enzymes Activity
 - Metabolism
 - Cellular Respiration / Photosynthesis
4. Describe the importance of reproduction in maintaining the continuity of life
 - Mitosis
 - Meiosis
 - Differentiation/Development
 - Diversity of Reproductive Strategies
5. Define and apply the Principles of Genetics to the Unity and Diversity of Life
 - Classical (Mendelian) Genetics
 - Molecular Genetics
6. Describe Evolution as the mechanism of change in Biology
 - Natural Selection
 - Speciation
 - Diversity of Life / Classification /
7. Identify and describe the Principles of Ecology
 - Ecosystem Organization
 - Ecological Interactions
 - Environmental Issues

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Test 1	Outcomes: 1,2,3 Not met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	5/19 students received a 70% or better. This courses needed 13/19 to meet outcomes.
Lab: scientific method	Outcomes: 1 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Lab metabolism	Outcomes met: 2 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Genetics Lab	Outcomes met: 5 Outcome met	Direct measure, 1. 70% of students achieve at least 70%	None	Students responded well to this measure

		2. Every student participates in the lab and at least 70% on the lab assignment.		
Test 2	Outomes: 3,4, 5 Outcome Not met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	4/20 students received a 70% or better. This test was issued the day after classes were cancelled for two days due to weather conditions.
Genetics lab	Outomes met: 5 Outcome Met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Final exam	Outomes met: 1,2,3,4,5,6,7 Outcome Partially Met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	1/9 students received a 70% or better. We used two extra days for review for this exam which seemed to help learning.
Ecology worksheet	Outomes met: 6 Outcome Met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment. None	None	Students responded well to this measure

Ecosystem worksheet	Outcomes met: 7 Outcome Met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment. None	None	Students responded well to this measure
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Strengths	Weaknesses	Additional comments
Creating extra time outside of the classroom for students to study seemed to those students that took advantage of the extra time.	The students that needed extra study time did not take advantage of getting extra help.	Dropping the lowest test score, did not motivate the students as expected. I will not allow a test to be dropped in the future.

Assessment Report for *Nutrition Online*

Term: Fall 2019 [prepared by Thomas Weaver]

Biology II Outcomes:

1. Identify the six classes of nutrients and their sources.
2. Demonstrate an understanding of the processes of digestion, absorption, and metabolism of nutrients.
3. Employ available resources to make sound nutritional choices.
4. Explain energy balance and weight control as it relates to nutrition and wellness.
5. Describe nutritional needs throughout the lifespan.
6. Recognize global food safety, security, and sustainability issues.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Chapter Tests 1-6	Outcomes: 1-6 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Chapter assignments 1-6,	Outcomes: 1-3 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure

Strengths	Weaknesses	Additional comments
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The students seem to have a positive attitude for the course when unsolvable issues occurred.	Being an online course some students did not manage their time well enough to complete assignments on time. Some video's did not play for students – IT and the publisher were both unable to fix the situation for several assignments.	Students need to be constantly reminded in an online course. Setting due dates did not matter to the students, they still did not turn in assignments on time. I will not use Pearson Connect or Pearson videos ever again, as the issues with these could not be fixed.
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Assessment Report for *General Biology/ BIO 1005 L0002*

Term: **Spring 2020** Prepared by Nathan Chaplin

Summary Table

KBOR Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Describe the nature of science.	Partially Met	Expanding active learning activities
2. Identify and describe the levels of organization and emergent properties of life.	Partially Met	Expanding active learning activities
3. Describe the principles of bioenergetics.	Partially Met	Expanding active learning activities
4. Describe the importance of reproduction in maintaining the continuity of life.	Not Met	Expanding active learning activities
5. Define and apply the principles of genetics to the unity and diversity of life.	Partially Met	Expanding active learning activities
6. Describe Evolution as the mechanism of change in Biology.	Partially Met	Expanding active learning activities
7. Identify and describe the Principles of Ecology	Partially Met	Improved direction on key concepts in ecosystems ecology
8. Demonstrate an understanding of the lecture topics through application of lab skills:	Met	none

Assessment Report for ***General Biology (Online)/BIO 1005 ON01***
Term: **Spring 2020** Prepared by Nathan Chaplin

Summary Table

KBOR Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Describe the nature of science.	Partially Met	Development of supplements related to scientific inquiry.
2. Identify and describe the levels of organization and emergent properties of life.	Partially Met	Enhance student learning of emergent properties of cells through developing supplements in this topic area
3. Describe the principles of bioenergetics.	Partially Met	Enhance active learning supplements related to cellular respiration
4. Describe the importance of reproduction in maintaining the continuity of life.	Partially Met	Development of supplements related to meiosis/ sexual life cycles.
5. Define and apply the principles of genetics to the unity and diversity of life.	Partially Met	Development of activities related to molecular genetics.
6. Describe Evolution as the mechanism of change in Biology	Partially Met	Development of activities related to Microbiology.
7. Identify and describe the Principles of Ecology	Met	none
8. Demonstrate an understanding of the lecture topics through application of lab skills.	Met	none

Assessment Report for **Biology I: Principles of Cellular and Molecular Biology/ BIO 1115**

Term: **Spring 2020** Prepared by Nathan Chaplin

Summary Table

KBOR Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Demonstrate an understanding of the nature of science.	Partially Met	Ensure better mechanisms of assessment are in place.
2. Demonstrate an understanding of the levels of organization and emergent properties of life.	Partially Met	More active learning opportunities will be given in future sections
3. Demonstrate an understanding of bioenergetics.	Partially Met	Additional assigned activities will be given in future sections. Course progression order will be modified.
4. Demonstrate an understanding of cellular reproduction.	Met	none
5. Identify the basic principles of Mendelian and molecular genetics, and relate these to the basic principles of Natural Selection and evolution.	Not Met	Teaching methods will be revised.
6. Design and perform experiments in a laboratory setting.	Met	None

Assessment Report for **Microbiology/BIO2055**
Term: **Spring 2020** Prepared by Nathan Chaplin

Summary Table

KBOR Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Microbial Cell Biology	Partially Met	Divide material between more frequent exams.
2. Microbial Genetics	Not Met	Divide material between more frequent exams.
3. Interactions and Impact of Microorganisms on Humans	Partially Met	Split testing over material into 2 exams
4. Interactions and Impacts of Microorganisms in the Environment	Partially Met	Revise testing to include more students.
5. Integrating Themes	Partially Met	Divide material between more frequent exams.
6. Laboratory Skills	Met	Include a second practical exam

Assessment Report for Anatomy & Physiology On-Ground

Term: Spring 2020 [Prepared by Thomas Weaver, retrieved from .pdf file]

Anatomy & Physiology Outcomes:

1. Identify the various levels of biological structures and the language used to describe them:
 - a. be able to use anatomical terminology,
 - b. explain homeostasis,
 - c. identify cellular structures and their functions,
 - d. identify and describe tissue types and their location in the human body.
2. Identify and describe the systems associated with body covering, support, and movement.
3. Identify and describe systems that integrate, regulate, and control the activities of the body, including the nervous system, special senses, and the endocrine system.
4. Identify and describe the systems responsible for fluid equilibrium, transport and gas exchange in the body, including the cardiovascular system, the lymphatic system, and the respiratory system.
5. Identify and describe the systems that relate to environmental exchange and reproduction including the digestive system, urinary system, and the reproductive system.

Summary Table

Learning

Measures

Outcomes

Met/ Partially

Met/ Not Met

Measure

type & target goal

Summary of

Future

Planned

Action(s)

Findings and

Further

actions

Exam 1 Outcomes: 1a,b,c,d

NOT Met

Direct measure,

1. 70% of students

achieve at least 70%

2. Every student

participates in the lab and

at least 70% on the lab

assignment.

None. This exam

was attempted

with lap tops in

which the test

was on canvas.

Technical

difficulties with

the computers

created students

not to get done

on time. We will

not do this again.

8/15 students

received a 70%

or

better. Further
actions include
taking exams on
paper.

Muscle
test/integuemtary

Outomes:

1 ,2

Direct measure, None. students
and allows

Students
responded well

Met

1. 70% of students
achieve at least
70%

.
adaptation to real
world
experiences.

to this measure.

¾ students met
this outcome

Digestive Quiz

Outomes met:

5

Outcome met

Direct measure,

1. 70% of students

achieve at least

70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

None Students

responded well

to this measure.

Cardiovascular

Quiz

Outcome met 4 Direct measure,

1. 70% of students

achieve at least 70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

None Students

responded well

with some

difficulties due

to the transition

to online from

the COVID 19

outbreak.

Special Senses Outcome

3

Met

Direct measure,

1. 70% of students

achieve at least 70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

none Students

responded well

with some

difficulties due

to the transition

to online from

the COVID 19

outbreak.

Assessment Report for Anatomy & Physiology -Dual Credit hybrid

Term: Spring 2020 [Prepared by Thomas Weaver, retrieved from .pdf file]

Instructors- John Weilert, Thomas Weaver

Anatomy & Physiology Outcomes:

1. Identify the various levels of biological structures and the language used to describe them:
 - a. be able to use anatomical terminology,
 - b. explain homeostasis,
 - c. identify cellular structures and their functions,
 - d. identify and describe tissue types and their location in the human body.
2. Identify and describe the systems associated with body covering, support, and movement.
3. Identify and describe systems that integrate, regulate, and control the activities of the body, including the nervous system, special senses, and the endocrine system.
4. Identify and describe the systems responsible for fluid equilibrium, transport and gas exchange in the body, including the cardiovascular system, the lymphatic system, and the respiratory system.
5. Identify and describe the systems that relate to environmental exchange and reproduction including the digestive system, urinary system, and the reproductive system.

Summary Table

Learning

Measures

Outcomes

Met/ Partially

Met/ Not Met

Measure

type & target goal

Summary of

Future

Planned

Action(s)

Findings and

Further

actions

Intro to the eye Outomes:

1a,3

Met

Direct measure,

1. 70% of students

achieve at least 70%

2. Every student

participates in the lab and

at least 70% on the lab

assignment.

None. 3/4 students

received a 70%

or better.

Nervous System

Test

Outomes:

1

Met

Direct measure,

1. 70% of students

achieve at least

70%

None. students

and allows

adaptation to real
world
experiences.

Students
responded well
to this measure.
¾ students met
this outcome

Skeletal System
project Outcomes met:

2

Outcome met
Direct measure,
1. 70% of students
achieve at least
70%

2. Every student
participates in the lab
and at least 70% on
the lab assignment.

None Students
responded well
to this measure.

Strengths Weaknesses Additional
comments

This course was cotaught by two
instructors which

resonated well with the students. This required cooperation and communication among the instructors.

Suddenly transferring to online (COVID 10 pandemic) created difficulty for students acquire proper technology to function in the course. This created many students to get behind in the course and some to withdraw from the course.

The COVID 19 epidemic created many difficulties for the students to transfer online. For the future I will have a plan in place to be able to transfer this course online. The biggest difficulty transferring

this course online was
the students were high
school students,
therefore their ability
to acquire a computer
and internet service
was an issue.

PENDING APPROVAL

Assessment Report for Anatomy & Physiology Online

Term: Spring 2020 [Prepared by Thomas Weaver, retrieved from .pdf file]

Anatomy & Physiology Outcomes:

1. Identify the various levels of biological structures and the language used to describe them:
 - a. be able to use anatomical terminology,
 - b. explain homeostasis,
 - c. identify cellular structures and their functions,
 - d. identify and describe tissue types and their location in the human body.
2. Identify and describe the systems associated with body covering, support, and movement.
3. Identify and describe systems that integrate, regulate, and control the activities of the body, including the nervous system, special senses, and the endocrine system.
4. Identify and describe the systems responsible for fluid equilibrium, transport and gas exchange in the body, including the cardiovascular system, the lymphatic system, and the respiratory system.
5. Identify and describe the systems that relate to environmental exchange and reproduction including the digestive system, urinary system, and the reproductive system.

Summary Table

Learning

Measures

Outcomes

Met/ Partially

Met/ Not Met

Measure

type & target goal

Summary of

Future

Planned

Action(s)

Findings and

Further

actions

Exam 1 Outcomes: 1a,b,c,d

Met

Direct measure,

1. 70% of students

achieve at least 70%

2. Every student

participates in the lab and

at least 70% on the lab

assignment.

None. This exam

was attempted

with lap tops in

which the test

was on canvas.

Technical

difficulties with

the computers

created students

not to get done

on time. We will

not do this again.

7/10 students

received a 70%

or

better. Further
actions include
taking exams on
paper.

Muscle
test/integuemtary

Outomes:

1,2

Direct measure, None. students
and allows

Students
responded well

Met

1. 70% of students
achieve at least
70%

.
adaptation to real
world
experiences.

to this measure.

¾ students met
this outcome

Digestive Quiz

Outomes met:

5

Outcome met

Direct measure,

1. 70% of students

achieve at least

70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

None Students

responded well

to this measure.

Cardiovascular

Quiz

Outcome met 4 Direct measure,

1. 70% of students

achieve at least 70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

None Students

responded well

with some

difficulties due

to the transition

to online from

the COVID 19

outbreak.

Special Senses Outcome

3

Met

Direct measure,

1. 70% of students

achieve at least 70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

none Students

responded well

with some

difficulties due

to the transition

to online from

the COVID 19

outbreak.

Digestive system

video

Outcome

5

Met

Direct measure,

1. 70% of students

achieve at least 70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

Students enjoyed

the video. It

allowed students

to put the

material they

learned into real

world

perspective.

Students

responded well

with some

difficulties due

to the transition

to online from

the COVID 19

outbreak.

Strengths Weaknesses Additional

comments

The class seemed to

respond well to the

new virtual labs added

to the class.

Some students had

difficulty getting

assignments in on

time after Spring

break (COVID 19

pandemic)

Having a once a week
teams session or zoom
session may be
helpful as long as the
student have
technology
capabilities.

PENDING APPROVAL

Assessment Report for General Biology

Term: Fall 2020 [Prepared by Thomas Weaver, retrieved from .pdf file]

Biology II Outcomes:

1. Describe the nature of science.

Scientific Processes

Scientific Methods

2. Identify and describe the levels of organization and emergent properties of life.

Chemical

Cellular

Organ/Organ System

Organismal

Ecological

3. Describe the principles of Bioenergetics.

Enzymes Activity

Metabolism

Cellular Respiration / Photosynthesis

4. Describe the importance of reproduction in maintaining the continuity of life

Mitosis

Meiosis

Differentiation/Development

Diversity of Reproductive Strategies

5. Define and apply the Principles of Genetics to the Unity and Diversity of Life

Classical (Mendelian) Genetics

• Molecular Genetics

6. Describe Evolution as the mechanism of change in Biology

Natural Selection

Speciation

Diversity of Life / Classification /

7. Identify and describe the Principles of Ecology

Ecosystem Organization

Ecological Interactions

Environmental Issues

Summary Table

Learning

Measures

Outcomes

Met/ Partially

Met/ Not Met

Measure

type & target goal

Summary of

Future

Planned

Action(s)

Findings and

Further

actions

Test 1 Outcomes:

1,2,3

Not met

Direct measure,

1. 70% of students

achieve at least 70%

2. Every student

participates in the lab and

at least 70% on the lab
assignment.

None. Please

keep in mind 18

/22 students are

athletes. 0/22

students came to

tutoring session

with instructor

that was offered

everyday for

2hrs a day. 0/22

students attended

test review.

8/22 students

received a 70%

or better. This is

36%. This

courses needed

15.4/19 to meet

outcomes.

Lab: scientific

method (Oreo Lab)

Outomes:

1

Outcome met

Direct measure,

1. 70% of students

achieve at least

70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

None. Future

action is to

continue this lab,

as it highly

accepted by

students and

allows

adaptation to real

world

experiences.

Students

responded well

to this measure.

21/22 met the

outcome for this

measure.

Lab: DNA

extraction Outcomes met:

2

Outcome met

Direct measure,

1. 70% of students

achieve at least

70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

None Students

responded well

to this measure.

Photosynthesis

Lab Outcomes met:

5

Outcome NOT

met

Direct measure,

1. 70% of students

achieve at least

70%

2. Every student

participates in the lab

and at least 70% on

the lab assignment.

This lab was

adjusted to be

done online, as

class was

conducted online

due to COVID

19 transition.

Future action

will be to

Students

responded well

to this measure.

13/22-60% met

this outcome.

conduct a virtual

lab if it is

conducted

online. We were

not able to do

this due to the

abnormally

quick transition

to online.

Final exam

Outcomes met:

1,2,3,4,5,6,7

Outcome Partially

Met

Direct measure,

1. 70% of students

achieve at least

70%

2. Every student

participates in the lab

and at least 70% on
the lab assignment.

This measure
was conducted
online w/out
proctoring. We
were not set up
for proctoring at
this time,
therefore grades
appear better
than normal.

Future actions
require
proctoring for all
online testing.

Students
responded well
to this measure.

15/21 69.2%

met the
outcomes for
this measure.

Strengths Weaknesses Additional
comments

Creating extra time
outside of the classroom
for students

to study seemed to those students that took advantage of the extra time.

The students that needed extra study time did not take advantage of getting extra help. Suddenly transferring to online created difficulty for students acquire proper technology to function in the course.

This created many students to get behind in the course and some to withdraw from the course.

The COVID 19 epidemic created many difficulties for the students to transfer online. For the future I will have a plan in place to be able to transfer this course online. The biggest

difficulty transferring
this course online was
the students ability to
acquire a computer
and internet service.
Students were not
answering emails
efficiently.

Assessment Report for *Medical Terminology Online*

Term: Spring 2020 [Prepared by Thomas Weaver]

Medical Terminology Outcomes:

1. Define medical word parts.
 1. Define basic prefixes, suffixes and word roots and combining forms used in the medical language.
 2. Given the meaning, create medical words using the proper word elements.
 3. Devise proper plural forms of medical words.
2. Analyze medical terms.
 1. Analyze medical terms that combine prefixes, suffixes and word roots and combining forms.
 2. Build medical terms using prefixes, suffixes, word roots and combining forms.
3. Spell selected medical terms correctly.
 1. Demonstrate use of a medical dictionary.
 2. Given a list of medical terms, spell each correctly.
4. Pronounce selected medical terms correctly.
 1. Given a list of medical terms, pronounce each correctly.
 2. Given a list of medical terms, spell each correctly.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Chapter Tests 1-6	Outcomes: 1-2 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Chapter assignments 1-6,	Outcomes: 2-3 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure

Strengths	Weaknesses	Additional comments
The students seem to have a positive attitude for the course when issues occurred.	Although this course did not change throughout the semester, some students had more difficulty turning assignments in on time. This seemed to be due to the COVID 19 situation.	Turning in assignments late increased considerably after Spring Break (COVID 19 outbreak).

Assessment Report for **Biology II**
Term: Spring 2020 [Prepared by Thomas Weaver]

Biology II Outcomes:

1. Summarize and explain the processes and mechanisms of evolution.
2. Interpret organismal diversity using phylogenetic hypotheses.
3. Relate structure to function in organisms.
4. Explain how organisms interact with their environments.
5. Design and perform experiments incorporating organisms in a laboratory setting.
 - a. Develop observational skills from the microscopic to the macroscopic and ecological levels.
 - b. Apply quantitative measurement skills incorporating the metric system.
 - c. Interpret and communicate data using appropriate analytical and statistical skills.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Evolution Board game	Outomes met: 1	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	This was the first time utilizing this measure. I will continue using this measure in the future. Due the success of this measure, I will initiate other board games in the future.	Students responded extremely well to this measure
Nova Lab: Phylogenic tree	Outomes met: 1,2	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	Continue this measure	Students responded well to this measure
Lab microscope	Outomes met: 5a, 5b, 5c	Direct measure,	None	Students responded well to this measure.

		1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.		
Bird Beak Lab	Outomes met: 2,3,4,5c	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	Continue this measure	Students responded well to this measure.
Marine Arthropod video	Outomes met: 3,4, 5a	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	This measure was adapted to be used online due to transitioning to online during the COVID 19 changes.	Students responded well to this measure. Video was accessible with all students
Animal Behavior worksheet	Outomes met: 3,4,5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Final exam	Outomes met: 1,2,3,4,5a,b,c	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at	This measure was taken online	Students responded well to this measure. Not having the ability to have a proctor for this exam is a concern that will

		least 70% on the lab assignment.		be addressed for the future.
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Strengths	Weaknesses	Additional comments
Having a small class allowed for more class interaction and enthusiasm especially with dissections.	Transitioning to online due to the COVID 19 situation eliminated some dissection labs which made learning more difficult for these students.	Future tasks will include creating labs, assignments and videos of myself lecturing and dissecting that can be studied online in case a situation such as COVID 19 occurs again.

Assessment Report for *Nutrition Online*

Term: spring 2020 [Prepared by Thomas Weaver]

Biology II Outcomes:

1. Identify the six classes of nutrients and their sources.
2. Demonstrate an understanding of the processes of digestion, absorption, and metabolism of nutrients.
3. Employ available resources to make sound nutritional choices.
4. Explain energy balance and weight control as it relates to nutrition and wellness.
5. Describe nutritional needs throughout the lifespan.
6. Recognize global food safety, security, and sustainability issues.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Chapter Tests 1-6	Outcomes: 1-6 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	Some students assignments appeared to be taken from the internet.	Students responded well to this measure. However a new edition of the book will be used in the future which should eliminate students copying answers from the internet.
Chapter assignments 1-6,	Outcomes: 1-3 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure

Strengths	Weaknesses	Additional comments
The students seem to have a positive attitude for the course when issues occurred	Although this course was not changed during the COVID 19 situation, quality of work seemed to decrease. It appears some students had other classes that transitioned from on-ground to on-line which affected their work in this course.	After spring break (COVID 19 situation) many students consistently turned in work late. These students were not turning work in late before the COVID situation. Videos worked better this semester, as I used different sources for videos this semester

Assessment Report for *General Biology/ BIO 1005 HY04*

Term: Fall 2020

Prepared by Nathan Chaplin

Summary Table

Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Describe the nature of science.	Met	none
2. Identify and describe the levels of organization and emergent properties of life.	Not Met	Course restructuring to improve efficiency of in-class time and promote student engagement with lecture materials.
3. Describe the principles of bioenergetics.	Not Met	See Outcome 2.
4. Describe the importance of reproduction in maintaining the continuity of life.	Met	See Outcome 2.
5. Define and apply the principles of genetics to the unity and diversity of life.	Partially Met	See Outcome 2.
6. Describe Evolution as the mechanism of change in Biology.	Not Met	See Outcome 2.
7. Identify and describe the Principles of Ecology	Met	See Outcome 2.
8. Demonstrate an understanding of the lecture topics through application of lab skills:	Met	See Outcome 2.

Assessment Report for *General Biology (Online)/BIO 1005 ON01*

Term: Fall 2020

Prepared by Nathan Chaplin

Summary Table

Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Describe the nature of science.	Partially Met	Revision of supplements.
2. Identify and describe the levels of organization and emergent properties of life.	Partially Met	Addition of graded activities and other resources pertaining to cellular biology
3. Describe the principles of bioenergetics.	Partially Met	Enhance active learning supplements related to cellular respiration
4. Describe the importance of reproduction in maintaining the continuity of life.	Partially Met	Development of supplements related to meiosis/ sexual life cycles.
5. Define and apply the principles of genetics to the unity and diversity of life.	Partially Met	Development of activities related to molecular genetics.
6. Describe Evolution as the mechanism of change in Biology	Met	none
7. Identify and describe the Principles of Ecology	Met	none
8. Demonstrate an understanding of the lecture topics through application of lab skills.	Met	none

Assessment Report for **Biology I: Principles of Cellular and
Molecular Biology/ BIO 1115**

Term: Fall 2020

Prepared by Nathan Chaplin

Summary Table

Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Demonstrate an understanding of the nature of science.	Partially Met	Prioritization of a second lab report to more clearly assess student mastery of this Outcome
2. Demonstrate an understanding of the levels of organization and emergent properties of life.	Partially Met	More course time will be devoted to this topic. Course assessment will be restructured to improve student focus.
3. Demonstrate an understanding of bioenergetics.	Partially Met	See second Outcome 2
4. Demonstrate an understanding of cellular reproduction.	Met	See second comment in Outcome 2
5. Identify the basic principles of Mendelian and molecular genetics, and relate these to the basic principles of Natural Selection and evolution.	Not Met	See second comment in Outcome 2
6. Design and perform experiments in a laboratory setting.	Met	None

Assessment Report for *Anatomy & Physiology On-Ground*

Term: Fall 2020 [Prepared by Thomas Weaver]

Anatomy & Physiology Outcomes:

1. Identify the various levels of biological structures and the language used to describe them:
 - a. be able to use anatomical terminology,
 - b. explain homeostasis,
 - c. identify cellular structures and their functions,
 - d. identify and describe tissue types and their location in the human body.
2. Identify and describe the systems associated with body covering, support, and movement.
3. Identify and describe systems that integrate, regulate, and control the activities of the body, including the nervous system, special senses, and the endocrine system.
4. Identify and describe the systems responsible for fluid equilibrium, transport and gas exchange in the body, including the cardiovascular system, the lymphatic system, and the respiratory system.
5. Identify and describe the systems that relate to environmental exchange and reproduction including the digestive system, urinary system, and the reproductive system.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
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Exam 1	Outomes: 1a,b,c,d NOT Met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None. This exam was entirely multiple choice. Students stated they would like a variety of the types of questions for this subject material.	6/14 students received a 70% or better. Further actions include creating tests that have matching and picture identification.
	Met			
Bone Lab	Outomes met: 5 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	This Lab was assigned as a result of switching to online during the COVID epidemic.	Students responded well to this measure, yet stated they would be more prepared for the test if they could have done it in class hands on.

Blood typing Lab	Outcome met 4-5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None. Will always do this virtual lab. Students love it. They respond very very well to it.	Students responded well.
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Strengths	Weaknesses	Additional comments
Having a small class allowed for more class interaction and enthusiasm especially with dissections.	Transitioning to online due to the COVID 19 situation eliminated some dissection labs which made learning more difficult for these students.	Future tasks will include having TEAMS meeting once a week for lecture. Students have difficulty learning this material on their own for the lecture portion of a hybrid course.

Assessment Report for *General Biology*

Term: Fall 2020 [Prepared by Thomas Weaver]

Biology II Outcomes:

1. Describe the nature of science.
Scientific
Processes
Scientific
Methods
2. Identify and describe the levels of organization and emergent properties of life.
Chemical
Cellular

Organ/Organ
System Organismal
Ecological
3. Describe the principles of Bioenergetics.
Enzymes
Activity
Metabolism
Cellular Respiration / Photosynthesis
4. Describe the importance of reproduction in maintaining the continuity of life
Mitosis
Meiosis
Differentiation/Development
Diversity of Reproductive
Strategies
5. Define and apply the Principles of Genetics to the Unity and Diversity of Life
Classical (Mendelian) Genetics
•Molecular Genetics
6. Describe Evolution as the mechanism of change in Biology Natural Selection
Speciation
Diversity of Life / Classification /
7. Identify and describe the Principles of Ecology
Ecosystem
Organization
Ecological Interactions
Environmental Issues

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Test 1	Outomes: 1,2,3 Not met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None. Please keep in mind over 80% students are athletes. No student came to tutoring session with instructor that was offered everyday for 2hrs a day or to the Friday tutoring session, although many said they would.	21/36 students received a 70% or better. This is 36%. This courses needed 15.4/19 to meet outcomes.
Lab: scientific method (Oreo Lab) 1	Outomes: 1 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None. Future action is to continue this lab, as it highly accepted by students and allows adaptation to real world experiences.	Students responded well to this measure. All students met the outcome for this measure.
Lab:Osmosis	Outomes met: 2 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	This was a virtual lab completed as homework during our transition to online for two weeks due to COVID 19.	Students responded well to this measure.

Photosynthesis Lab	Outomes met: 5 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	Labs were difficult with these students due to not having studied the lecture material before conducting the lab.	Although students met this outcome. Future actions will consist of having students complete an assignment before the lab that includes the material that will be conducted in the lab
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Strengths	Weaknesses	Additional comments
Creating extra time outside of the classroom for students to study seemed to those students that took advantage of the extra time. However does not help students that just do not care.	The students that needed extra study time did not take advantage of getting extra help. Suddenly transferring to online for two weeks created difficulty for students as they did not want to complete work on their own for labs.	Online transition went smooth with this class. However many of these students were athletes and just did not complete work or have any inclination to complete work.

Assessment Report for *Medical Terminology Online*

Term: Spring 2020 [Prepared by Thomas Weaver for Fall 2020]

Medical Terminology Outcomes:

1. Define medical word parts.
 1. Define basic prefixes, suffixes and word roots and combining forms used in the medical language.
 2. Given the meaning, create medical words using the proper word elements.
 3. Devise proper plural forms of medical words.
2. Analyze medical terms.
 1. Analyze medical terms that combine prefixes, suffixes and word roots and combining forms.
 2. Build medical terms using prefixes, suffixes, word roots and combining forms.
3. Spell selected medical terms correctly.
 1. Demonstrate use of a medical dictionary.
 2. Given a list of medical terms, spell each correctly.
4. Pronounce selected medical terms correctly.
 1. Given a list of medical terms, pronounce each correctly.
 2. Given a list of medical terms, spell each correctly.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Chapter Tests 1-6	Outcomes: 1-2 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure
Chapter assignments 1-6,	Outcomes: 2-3 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure

Strengths	Weaknesses	Additional comments		
The students seem to have a positive attitude for the course when issues occurred.	Although this course did not change throughout the semester, some students had more difficulty turning assignments in on time. This seemed to be due to the COVID 19 situation.	This class seemed more conscientious of completing work than any Med Term class I have taught..		

Assessment Report for *Nutrition Online*

Term: spring 2020 [Prepared by Thomas Weaver for Fall 2020]

Biology II Outcomes:

1. Identify the six classes of nutrients and their sources.
2. Demonstrate an understanding of the processes of digestion, absorption, and metabolism of nutrients.
3. Employ available resources to make sound nutritional choices.
4. Explain energy balance and weight control as it relates to nutrition and wellness.
5. Describe nutritional needs throughout the lifespan.
6. Recognize global food safety, security, and sustainability issues.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Chapter Tests 1-6	Outcomes: 1-6 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	Some students assignments appeared to be taken from the internet.	Students responded well to this measure. However a new edition of the book will be used in the future which should eliminate students copying answers from the internet.
Chapter assignments 1-6,	Outcomes: 1-3 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure

Strengths	Weaknesses	Additional comments
The students seem to have a positive attitude for the course when issues occurred	Some of the students had computer issues and stated they would rather take it on-ground. However, once the computer issues were resolved they seemed to respond well to the assignments and the course all together.	We will be using a different method of instruction next semester. Although I will be transferring most of the assignments to the new format, I will be using the new edition of the book and new assignments from the publisher.

Assessment Report for *General Biology (Online)/BIO 1005 ON01*

Term: Spring 2021

Prepared by Nathan Chaplin

Summary Table

Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Describe the nature of science.	Partially Met	Revision of supplements.
2. Identify and describe the levels of organization and emergent properties of life.	Partially Met	Enhance student learning of emergent properties of cells through developing supplements in this topic area
3. Describe the principles of bioenergetics.	Partially Met	Enhance active learning supplements related to cellular respiration
4. Describe the importance of reproduction in maintaining the continuity of life.	Partially Met	Restructuring chapter learning objectives to spread topics across subjects.
5. Define and apply the principles of genetics to the unity and diversity of life.	Partially Met	Development of activities related to molecular genetics.
6. Describe Evolution as the mechanism of change in Biology	Met	none
7. Identify and describe the Principles of Ecology	Met	none
8. Demonstrate an understanding of the lecture topics through application of lab skills.	Met	none

Assessment Report for *General Biology/ BIO 1005 HY03*

Term: Spring 2021

Prepared by Nathan Chaplin

Summary Table

Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Describe the nature of science.	Partially Met	Increase in-class discussion of lecture topics. Encourage attendance and participation in discussion.
2. Identify and describe the levels of organization and emergent properties of life.	Not Met	Increase in-class discussion of lecture topics. Encourage attendance and participation in discussion.
3. Describe the principles of bioenergetics.	Partially Met	Increase in-class discussion of lecture topics. Encourage attendance and participation in discussion.
4. Describe the importance of reproduction in maintaining the continuity of life.	Partially Met	Increase in-class discussion of lecture topics. Encourage attendance and participation in discussion.
5. Define and apply the principles of genetics to the unity and diversity of life.	Partially Met	Increase in-class discussion of lecture topics. Encourage attendance and participation in discussion.
6. Describe Evolution as the mechanism of change in Biology.	Partially Met	Increase in-class discussion of lecture topics. Encourage attendance and participation in discussion.
7. Identify and describe the Principles of Ecology	Met	none
8. Demonstrate an understanding of the lecture topics through application of lab skills:	Met	none

Assessment Report for **Microbiology/BIO2055**
Term: **Spring 2021** Prepared by: **Nathan Chaplin, PhD**

Summary Table

KBOR Learning Outcome	Met/ Partially Met/ Not Met	Summary of Future Planned Action(s)
1. Microbial Cell Biology	Partially Met	Increase in-class discussion of lecture topics.
2. Microbial Genetics	Met	Increase in-class discussion of lecture topics.
3. Interactions and Impact of Microorganisms on Humans	Partially Met	Increase in-class discussion of lecture topics.
4. Interactions and Impacts of Microorganisms in the Environment	Met	Increase in-class discussion of lecture topics.
5. Integrating Themes	Met	Increase in-class discussion of lecture topics.
6. Laboratory Skills	Met	Emphasize/ increase availability of open lab opportunities.

Assessment Report for *Anatomy & Physiology*

Term: Fall 2021

(Dr. Thomas Weaver) [Prepared for Spring 2021]

Anatomy & Physiology Outcomes:

1. Identify the various levels of biological structures and the language used to describe them:
 - a. be able to use anatomical terminology,
 - b. explain homeostasis,
 - c. identify cellular structures and their functions,
 - d. identify and describe tissue types and their location in the human body.
2. Identify and describe the systems associated with body covering, support, and movement.
3. Identify and describe systems that integrate, regulate, and control the activities of the body, including the nervous system, special senses, and the endocrine system.
4. Identify and describe the systems responsible for fluid equilibrium, transport and gas exchange in the body, including the cardiovascular system, the lymphatic system, and the respiratory system.
5. Identify and describe the systems that relate to environmental exchange and reproduction including the digestive system, urinary system, and the reproductive system.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Exam 1	Outomes: 1a,b,c,d NOT Met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None. This exam was entirely multiple choice. Students stated they would like a variety of the types of questions for this subject material.	Further actions include creating tests that have matching and picture identification.
Ch 5 Mcgraw Hill assignment	Outomes: 1 ,2,3	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	This assignment is a learning progressive assignment. It was part of the online/lecture portion of the class. This was homework	Students responded well. Students had some difficulty at times getting stuck on a problem and not being able to progress through the assignment.
Cardiovascular system, lymphatic system, respiratory system digestive system, urinary system, reproductive system assignments	Outcome 4-5	1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	Students responded well. This is a publisher assignment.	Students responded well.

	Met			
Bone Lab	Outomes met: 5 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	This Lab was assigned as a result of switching to online during the COVID epidemic.	Students responded well to this measure, yet stated they would be more prepared for the test if they could have done it in class hands on.
Blood typing Lab	Outcome met 4-5	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None. Will always do this virtual lab. Students love it. They respond very very well to it.	Students responded well.

Strengths	Weaknesses	Additional comments

Having a small class allowed for more class interaction and enthusiasm especially with dissections.	Some students missing class time due to all sports being held this semester created allot of make-up work for students.	If situation occurs again that creates many students being absent from class for institutional activities, I will designate one day for make-up work. This will eliminate chaos for making up labs.
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Assessment Report for **General
Biology**
Term: Fall 2021
(Dr. Thomas Weaver) [Prepared for Spring
2021]

General Biology Outcomes:

1. Describe the nature of science.
Scientific
Processes
Scientific
Methods
2. Identify and describe the levels of organization and emergent properties of life.
Chemical
Cellular

Organ/Organ
System Organismal
Ecological
3. Describe the principles of Bioenergetics.
Enzymes
Activity
Metabolism
Cellular Respiration / Photosynthesis
4. Describe the importance of reproduction in maintaining the continuity of life
Mitosis
Meiosis
Differentiation/Development
Diversity of Reproductive
Strategies
5. Define and apply the Principles of Genetics to the Unity and Diversity of Life
Classical (Mendelian) Genetics
•Molecular Genetics
6. Describe Evolution as the mechanism of change in Biology Natural Selection
Speciation
Diversity of Life / Classification /
7. Identify and describe the Principles of Ecology
Ecosystem
Organization
Ecological Interactions
Environmental Issues

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Test 1	Outomes: 1,2,3 Met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None. Please keep in mind over 80% students are athletes. Only one student came to tutoring session with instructor that was offered each Friday for tutoring session, although many said they would.	Students responded well to this test. The format was changed from last semester to include Matching type questions with pictures. The students responded well to this format.
Lab: scientific method (Oreo Lab)	Outomes: 1 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None. Future action is to continue this lab, as it highly accepted by students and allows adaptation to real world experiences.	Students responded well to this measure. All students met the outcome for this measure.
Lab:Osmosis	Outomes met: 2 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	This was a virtual lab completed as homework. This lab was used last semester due to COVID 19. The students responded so well, I used it again this semester.	I will continue to use this measure for the future, as the students seem to learn well from this measure..

Bacteriology assignment	Outomes met: 5 Not met met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	This assignment was a new assignments, I have not used before. It is through our publishing company. The students had difficulty with it due to animation video used in the assignment	This assignment will not be used in the future.
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Strengths	Weaknesses	Additional comments
Creating extra time outside of the classroom for students to study seemed to those students that took advantage of the extra time. However does not help students that just do not care.	The students that needed extra study time did not take advantage of getting extra help. This course consisted of mainly athletes. During many class times, students were too tired from practice to pay attention, some even left before class was complete, which resulted in receiving a 0 for the assignment. The students did not seem to care.	Many of these students were athletes and just did not complete work or have any inclination to complete work. After getting coach involved the students seemed to complete work and become more motivated to succeed in the class.

Assessment Report for *Medical Terminology Online*

Term: Spring 2021
(Dr. Thomas Weaver)

Medical Terminology Outcomes:

1. Define medical word parts.
 1. Define basic prefixes, suffixes and word roots and combining forms used in the medical language.
 2. Given the meaning, create medical words using the proper word elements.
 3. Devise proper plural forms of medical words.
2. Analyze medical terms.
 1. Analyze medical terms that combine prefixes, suffixes and word roots and combining forms.
 2. Build medical terms using prefixes, suffixes, word roots and combining forms.
3. Spell selected medical terms correctly.
 1. Demonstrate use of a medical dictionary.
 2. Given a list of medical terms, spell each correctly.
4. Pronounce selected medical terms correctly.
 1. Given a list of medical terms, pronounce each correctly.
 2. Given a list of medical terms, spell each correctly.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Case Study 1- 6	Outcomes: 1-3 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure Some responses seemed redundant to previous semesters. I will be using a new updated text next semester.
Section Quiz I, 7-12,	Outcomes: 2-4 Outcome met	Direct measure, 1. 70% of students achieve at least 70%	None	Students responded well to this measure Some responses seemed redundant to

Section Quiz III, Module 15	Outcomes: 2-4 Outcome met	2. Every student participates in the lab and at least 70% on the lab assignment. Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	previous semesters. I will be using a new updated text next semester. Students responded well to this measure Some responses seemed redundant to previous semesters. I will be using a new updated text next semester.
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Strengths	Weaknesses	Additional comments
The students seem to have a positive attitude for the course. Students responses seemed genuine. Students . seemed to have adjusted well this semester with COVID 19.	Some responses seemed redundant to previous semesters. I will be using a new updated text next semester to assure genuine answers from the students.	This class seemed more concious of completing work other than a just a few. I believe this is because we did not have any COVID 19 issues this semester.

Assessment Report for *Bio II – Organismal Biology*

Term: spring 2021 [Prepared by Thomas Weaver]

Biology II Outcomes:

1. Identify the six classes of nutrients and their sources.
2. Demonstrate an understanding of the processes of digestion, absorption, and metabolism of nutrients.
3. Employ available resources to make sound nutritional choices.
4. Explain energy balance and weight control as it relates to nutrition and wellness.
5. Describe nutritional needs throughout the lifespan.
6. Recognize global food safety, security, and sustainability issues.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Bird Beak lab	Outcomes: 1-6 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	Hands on Assignment. Student get a lot out of this assignment and it is presented in a fun atmosphere.	Students responded extremely well to this measure.
Evolution Board Game	Outcomes: 1-3 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	This was the first semester for this assignment. Bringing board game to the classroom was a tremendous success. Students responded well and retained the information well.	Students responded well to this measure. This assignment will not be successful with a large class. It was successful with the small class size.

Strengths	Weaknesses	Additional comments
The students seem to have a positive attitude for the course when issues occurred	None. This course seemed very successful.	This class allowed me to introduce board games as assignment. This was very successful with the small class size. I will introduce more board games for other subject matter in the future.

Assessment Report for *Nutrition Online*

Term: Spring 2021 [Prepared by Thomas Weaver]

Nutrition Outcomes:

1. Identify the six classes of nutrients and their sources.
2. Demonstrate an understanding of the processes of digestion, absorption, and metabolism of nutrients.
3. Employ available resources to make sound nutritional choices.
4. Explain energy balance and weight control as it relates to nutrition and wellness.
5. Describe nutritional needs throughout the lifespan.
6. Recognize global food safety, security, and sustainability issues.

Summary Table

Learning Measures	Outcomes Met/ Partially Met/ Not Met	Measure type & target goal	Summary of Future Planned Action(s)	Findings and Further actions
Chapter assignments 6-12	4-6 Outcome met	Direct Measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	These assignments were progressive assignments. The better they answer the section the less questions they have to answer. This type of assignment worked well for those who completed them.	This seemed to be a great way to have an assignment. Feedback from students indicated that they like this method as long as the assignment is not too lengthy. Further action will be having these assignments about an hour in length.
Discussion Forums 1-6	Outcomes: 1-3 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	Continue these discussions. It allows students to put the material into real world perspectives.	Students responded well to this measure. I used a new addition of the book this semester. This allowed students to use current events to discuss the relevance of the material.

Chapter1-5 test,	Outomes: 2-4 Outcome met	Direct measure, 1. 70% of students achieve at least 70% 2. Every student participates in the lab and at least 70% on the lab assignment.	None	Students responded well to this measure. This was a text book test. The animations for the test seemed to do well for the students.
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Strengths	Weaknesses	Additional comments
The students seem to have a positive attitude for the course.	We had one glitch in the publisher's program. During the first week of the semester. After the glitch was resolved the course seemed to go well. Students not completing work on time was the only other issue. However this happened less this semester than any other semester I have offered this course.	We used a different method of instruction next semester. Students responded well to the new addition to the book. This allowed students to use current events to discuss the relevance of the material. I also added assignments that looked into the individual students life choices. The students responded very well to this method of instruction.