BIOL 1408: Biology for Non-Science Majors I
+ ARTS 1301: Art Appreciation

“The Art of Life”

Hybrid Online Learning Community

Section 43280
Spring 2019
Eastfield College
STEM + Arts & Communications Divisions

7 credit hours
Course runs 1/22/19-5/16/19
Class meeting times:
Lecture: online (INET INE M T W R F S U)
Lab: Fridays 11:30am-2:10pm Rm. S315

BIOL 1408 Prerequisite - Required: College level ready in Reading and Writing.
ARTS 1301 Prerequisite - Required: College level ready in Reading.

Instructor Information:
Brie Kathleen Day, M.S., A.B.D.
Professor, Biology
Email: BrieDay@dcccd.edu
YouTube Channel: Brie’s BioWorld

Office Hours (Face-to-Face):
1/22-3/20: MW 3:00pm-4:00pm C231/S315/S307/prep labs
3/27-5/16: TR 4:00pm-5:00pm C231/S315/S307/prep labs

Virtual Office Hours:
Via Skype Tuesdays/Thursdays 11:00am-12:00pm
(Skype name: briedaydcccd)

Val Curry, B.F.A., M.A.
Adjunct Faculty, Art
Email: ValCurry@dcccd.edu
Welcome to “The Art of Life” Learning Community! In this first-of-its-kind team-taught course, you will develop an appreciation of art from a biological perspective. We will be exploring the beauty, structure, and function of life at the microscopic and molecular levels, focusing on the artistry of molecular structures such as DNA, proteins, and cells. This project-based course will enable you to learn biology hands-on in novel ways; applying multiple art techniques and genres to biological concepts and techniques in a lab setting. In this learning community, we will perform bio-art lab activities utilizing exciting techniques in biotechnology and art into creative bio-art projects! This course is taught in a “flipped” format, where the lecture material, lecture-based assignments, and assessments are online, and the practice discussion sessions and project-based lab sessions are face-to-face.

**BIOL 1408 Course Description**
Presentation of biological concepts for the non-science major. Provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. Laboratory activities will reinforce these concepts. (3 Lec., 3 Lab.) Coordinating Board Academic Approval Number 2601015103

**ARTS 1301 Course Description**
Films, lectures, slides, and discussions focus on the theoretical, cultural, and historical aspects of the visual arts. Emphasis is on the development of visual and aesthetic awareness. (3 Lec.) Coordinating Board Academic Approval Number 5007035126

Both BIOL 1408 and ARTS 1301 have Texas Common Course Numbers and are Core Curriculum courses selected by the colleges of DCCCD.
BIOL 1408 Course Lecture Learning Outcomes:
1. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
2. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
3. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
4. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.
5. Describe karyotyping, pedigrees, and biotechnology and provide an example of the uses of each.
6. Identify parts of a DNA molecule, and describe replication, transcription, and translation.

BIOL 1408 Course Lab Learning Outcomes:
1. Apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory. Communicate effectively the results of scientific investigations.
3. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
4. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
5. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
6. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.
7. Identify the importance of karyotypes, pedigrees, and biotechnology.
8. Identify parts of a DNA molecule, and describe replication, transcription, and translation.

ARTS 1301 Course Lecture Learning Outcomes:
1. Apply art terminology as it specifically relates to works of art.
2. Demonstrate knowledge of art elements and principles of design.
3. Differentiate between the processes and materials used in the production of various works of art.
4. Critically interpret and evaluate works of art.
5. Demonstrate an understanding of the impact of arts on culture.
Important Dates:
- Census Date: 2/4
- Faculty Development Days (no class): 2/28-3/1
- Spring Break: 3/11-3/18
- Holiday (no class): 4/19
- Final Exams: 5/13-5/16
- Term ends: 5/16

Required Course Textbook & Materials
- “Modified MasteringBiology for Audesirk Biology: Life on Earth with Physiology, 11e” by Gerald Audesirk, Teresa Audesirk and Bruce Byers” online interactive software WITH the Audersirk eText (~$95 for software + eText), available in the campus bookstore.

**Note that you may purchase a hardcopy of the textbook if desired, or solely use the eText...but you DO need the etext with the Modified MasteringBiology software!

- art supplies (announced in class)
- box of nitrile or vinyl gloves (replenish as needed)
- lab goggles
- Regular access to high-speed internet

Anticipated Grading Table

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Lab Activity Handouts @ 20 points each</td>
<td>100</td>
<td>4.1</td>
</tr>
<tr>
<td>9 Bio-Art Creative Projects @ 100 points each</td>
<td>900</td>
<td>36.7</td>
</tr>
<tr>
<td>Cumulative Oral Final Exam (during Gallery Art Show)</td>
<td>100</td>
<td>4.1</td>
</tr>
<tr>
<td>14 online MasteringBiology practice assignments @15 pts. each</td>
<td>210</td>
<td>8.6</td>
</tr>
<tr>
<td>6 online Discussion Board forums @ 10 points each</td>
<td>60</td>
<td>2.4</td>
</tr>
<tr>
<td>7 Biology Focus Assignments @ 10 points each</td>
<td>70</td>
<td>2.9</td>
</tr>
<tr>
<td>6 Art Lecture Assignments @ 10 points each</td>
<td>60</td>
<td>2.4</td>
</tr>
<tr>
<td>13 Participation Points Sessions @ 50 points each</td>
<td>650</td>
<td>26.5</td>
</tr>
<tr>
<td>6 (non-cumulative) online Unit Assessments @ 50 points each</td>
<td>300</td>
<td>12.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,450</td>
<td>100</td>
</tr>
</tbody>
</table>
At the end of the course, your final grade is computed on the basis of total points earned divided by total possible points possible for the semester. This value is then turned into a percentage, with grades being assigned as follows:

A=90.0%-100; B=80.0-89.9%; C=70.0-79.9%; D=60.0-69.9%; F=59.9% and below

We reserve the right to curve or not curve final grades at the end of the term. Class participation and general academic attitude may be taken into account in cases of students who are border-line between two grades. If you have any questions as to your grade at any point during the semester, contact the instructors, who also keep an updated Excel file of grades. At any point you can calculate your own grade by dividing the number of points you earned on all work up to that point, divided by the total points available up to that point, times 100%. All Mastering assignment grades may be viewed in Mastering after their due date. Blackboard may take up to 24 hours to update Mastering scores in the gradebook. Turn-around time for hand-graded work is 1 week after the due date.

**Developmental Courses**

The Texas Success Initiative (TSI) is a statewide program designed to ensure that students enrolled in Texas public colleges and universities have the basic academic skills needed to be successful in college-level course work. The TSI requires assessment, remediation (if necessary), and advising of students who attend a public college or university in the state of Texas. The program assesses a student’s basic academic skills in reading, writing and math. Passing the assessment is a prerequisite for enrollment in many college-level classes such as English 1301/1302, History 1301/1302, Math 1414, etc. Students who do not meet assessment standards may complete prerequisite requirements by taking developmental courses in the deficient area and passing them with a grade of C or higher. In some cases retesting will also be required. It is up to each student to be aware and informed about requirements that are subject to change.  

*Additional information is available from the TSI office.*  
https://www1.dcccd.edu/cat0910/admiss/tsi.cfm?loc=4

**Core Objective Development Statements:**

This learning community, consisting of BIOL 1408 and ARTS 1301, develops the following CORE objectives:

- **Critical Thinking** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

- **Empirical and Quantitative Skills** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

*This learning community, consisting of BIOL 1408 and ARTS 1301, develops Critical Thinking and Empirical and Quantitative Skills* by requiring students to
cultivate their creativity in applying art and biology concepts they learn throughout the course to their required Common Book Competition Project.

- **Communication** - to include effective development, interpretation and expression of ideas through written, oral and visual communication.

- **Teamwork** - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

**This learning community, consisting of BIOL 1408 and ARTS 1301, develops Teamwork** by requiring students to work together in groups to develop a sculpture.

### MasteringBiology Practice Assignments

MasteringBiology Practice Assignments will be online and may be multiple choice, True/False, fill-in the blank, essay, or a combination of these. They are untimed and you may have 6 attempts for each assignment, but **leaving the assignment idle on your computer for too long may cause your internet to shut off or freeze and for you to consequently lose your answers.** I recommend taking assignments on a high-speed internet.

The number of questions on an assignment may vary, but the total point value will not. You may take the assignment at any time between its posting and due date, but once you decide to take the assignment, you cannot go back.

Online assignments are open note/book/website/etc., but require more than just your ability to look up answers. To perform well on assignments, it is important you master the concepts of the material presented in that unit **before** you take the assignment.

### Online Unit Assessments and the Final Exam

Unit Assessments are taken online and are open book/notes/websites and are based on content presented in the corresponding unit. They may be multiple choice, True/False, fill-in the blank, essay, or a combination of these, and are taken within the Modified MasteringBiology website. Online Unit Assessments are due by 11:59pm on the due date for the corresponding unit, and may not be made up or submitted late, except in extenuating circumstances as decided by the instructors. The final exam is cumulative of the course and will be taken face-to-face. The date of final exam will be announced in class based on the college’s final exam schedule. The final exam cannot be made up.

### Lab Activities

Students are required to attend and fully participate in all lab activities. Missed lab activities and their associated projects cannot be made up. Students are expected to come to lab prepared having already read the lab activity(-ies) for the day. All lab safety protocols must be followed at all times in the lab room. Failure to adhere to safety protocols is ground for dismissal from lab and loss of associated points. Coming late to lab, not fully participating during lab, or leaving early from lab will result in loss of points.
**Late Policy**
Modified MasteringBiology Practice Assignments, Unit Biology and Art Focus Assignments, lab projects, and activities assigned during the face-to-face discussion session are accepted late, but will be docked 20% per calendar day late. Online unit assessments, the Final Exam, and discussion board forum posts are not accepted late. The instructors reserve the right to make exceptions in extenuating circumstances. Documentation may be required.

**FERPA**
FERPA protects educational records of a student from public disclosure without written permission of the student. Although many exceptions to the Act exist, the exceptions are very limited. The Department of Education enforces this Act. Visit the website below for more information:

https://www.eastfieldcollege.edu/pages/privacysecurity.aspx?DCCCD_College=EFC - ferpa

**Writing Across the Curriculum**
Writing is a part of all biological and art appreciation courses. You will have writing assignments determined by your instructors.

**Institutional Policies and Services**

Institutional policies relating to this course can be accessed from the following link:

Communication Guidelines

Communicating in an online setting = Netiquette!!!

All students must adhere to proper “Netiquette”.

It is expected that you will communicate issues and concerns in a professional manner by e-mailing the instructors if the issue is personal, or posting information in the “Q the Profs.” discussion thread if the information possibly relates to other students (do not post issues that are of a personal nature, such as personal grade questions, on the “Q the Profs.” forum; those should be e-mailed directly to us…we will remove such posts!).

Because of the anonymity of text based conversation and the inability to discern body language and nonverbal cues, it is imperative that all communication be professional and appropriate (this is called good “Netiquette”!) for a classroom setting within an institution of higher learning. Visit the Netiquette site to learn all about using proper “Netiquette”. There is a self-quiz at the end you can take to see how good your netiquette is! Failure to comply with these requirements will result in disciplinary action and potential dismissal from the class. We also expect that all written work will be written professionally and will be proofread prior to submission (including grammar, spelling, punctuation, typos, etc.). Be extra careful about using acronyms and computer jargon, especially on the discussion board, as some people may not be familiar with those and could possibly take offense (We have seen this happen!).

Do not write messages in all caps (this means you are yelling in the computer world!), crazy colors like hot pink, or overuse exclamation marks. Thank you for your cooperation and good Netiquette!

Instructor Expectations

Summary of Expectations

On all email correspondence, you are required to include both professors on the email. Thus, be sure to send each email to BOTH BrieDay@dcccd.edu AND ValCurry@dcccd.edu

All e-mails to the instructors must include your name and “Art of Life” in the subject line or may not get read. If you do not receive a response to your e-mail within 24-48 hours during the business week, re-submit your e-mail, ensuring this information is present in the subject line.
Work that is not submitted correctly may receive a grade of zero. It is your responsibility to ensure assignments are submitted correctly and on time. The instructors may not always notify students that did not submit assignments correctly…the grade will simply be recorded as a zero.

If a technical problem should arise while taking an assignment or assessment, you should immediately e-mail the instructors about the problem. If the instructors have not been e-mailed within 24-48 hours after the problem occurred in which no answers were recorded, the grade on that assessment will be recorded as a zero. Assessments may not be made-up, except in extenuating circumstances as judged by the instructors (documentation may be required). While we always do my best to promptly answer e-mails and discussion board submissions, expect at least a 24-48 hour (weekday) turn-around time for responses due to the high volume of e-mails received. Also, please kindly remember that professors are human too, with families and lives outside of school. *We will not often be answering e-mails or texts on weekends, at night, or on holidays.* Thank you for your patience and understanding.

Everything you write in this course must be written in complete sentences and be of college-level quality, and must use proper Netiquette. Except in extenuating circumstances as decided by the instructors, work submitted after the deadline will not be accepted. Please do not request extensions.

On the discussion board, all viewpoints related to subject material are welcome. However, personal attacks against classmates, and/or the professors are not permitted, and any such inappropriate attacks will be removed and are cause for further disciplinary action. Profanity is also not permitted. Do not write in all caps or in weird colors/fonts. Use proper grammar, capitalization, and punctuation.

**Academic Dishonesty**

**Plagiarism**

*Everything you write and do in this course must be your own work.* If you put something in your work in this class that is not your own words/work and you do not give credit to the author (this includes not just putting someone else’s words down, but even just their idea(s)!), you have committed **PLAGIARISM**.

Academic honesty is expected, and integrity is valued in the Dallas County Community Colleges.
Scholastic dishonesty is a violation of the Code of Student Conduct. The purpose of the Student Code of Conduct is to provide guidelines for the educational environment of the Dallas County Community College District. Such an environment presupposes both rights and responsibilities. Disciplinary regulations at the college are set forth in writing in order to give students general notice of prohibited conduct. Students should be aware of disciplinary actions for all forms of academic dishonesty, including but not limited to, cheating on a test, plagiarism, and collusion. As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct published in the DCCCD Catalog. More information is available on the internet at https://www1.dcccd.edu.cat0406/ss/code.cfm.

Cheating on a Test/Assessment shall include:

a. Copying from another student’s test paper/online assessment.
b. Using test material not authorized by the person administering the test.
c. All forms of academic dishonesty, including cheating, fabrication, facilitating academic dishonesty, plagiarism, and collusion.
d. Collaborating with or seeking aid from another student during a test without permission from the test administrator.
e. Knowingly using, buying, selling, stealing, or soliciting, in whole or in part, the contents of an unadministered test.
f. The unauthorized transporting or removal, in whole or part, of the contents of the unadministered test.
g. Substituting for another student, or permitting another student to substitute for one’s self, to take a test.
h. Bribing another person to obtain an unadministered test or information about an unadministered test.

Plagiarism: Shall be defined as the appropriating, buying, receiving as a gift, or obtaining by any means another’s work and the acknowledged submission or incorporation of it in one’s own written work (i.e., taking someone else’s words or ideas and using them as your own). Plagiarism is academic dishonesty and plagiarized materials/assignments will receive a grade of zero and the student will be subjected to the disciplinary actions under academic dishonesty.

Collusion: Shall be defined as the unauthorized collaboration with another person in preparing written work for fulfillment of course requirements.
Committing any form or amount of plagiarism may result in an automatic “F” on your work and is grounds for further disciplinary action, such as being reported to the college’s administration. This includes plagiarizing from websites and other text documents, the professor’s lectures, the textbook, from classmates, etc. Doing so will result in a grade of zero on the plagiarized work and is ground for further disciplinary action, as committing plagiarism is a violation of the college’s code of conduct.

All that stern stuff being said, we are so excited to have you in this learning community…we know you’ll love it!

Remember….we, as well as the rest of the Eastfield faculty and staff, are always here to help and encourage. So, sit back, relax, get your creative juices flowing, and have a great course! 😊

Note: The instructors reserve the right to modify the assignments/assessments/projects and the course syllabus & schedule. Students will be notified in class of changes.
<table>
<thead>
<tr>
<th>Unit Date</th>
<th>Learning Unit</th>
<th>Art Concepts Covered</th>
<th>Biology Concepts Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/22-2/8</td>
<td><strong>Unit 1</strong>: The Art of Life's Blueprint: DNA</td>
<td>water colors; pencil/pen; paper; color; scale &amp; proportion; contrast &amp; rhythm; unity &amp;</td>
<td>DNA's form, structure, replication, &amp; function; DNA's discovery; Scientific Method; Basic Chemistry of Life</td>
</tr>
<tr>
<td>2/9-2/22</td>
<td><strong>Unit 2</strong>: Biological Oragami - Packaging Life</td>
<td>print making; sculpture; fibers; form; balance</td>
<td>Biomolecules; Cell Form and Structure; fitting DNA into the nucleus</td>
</tr>
<tr>
<td>2/23-3/8</td>
<td><strong>Unit 3</strong>: The Secret of Life Application</td>
<td>sculpture; linocut; photography; watercolors; pencil/pen; paper; color</td>
<td>Energy; Cell Respiration; Photosynthesis; protein synthesis</td>
</tr>
<tr>
<td>3/9-3/29</td>
<td><strong>Unit 4</strong>: Zooming in on Life</td>
<td>photography; photoshop; scale &amp; proportion; form</td>
<td>Cell reproduction, basic genetics</td>
</tr>
<tr>
<td>3/30-4/12</td>
<td><strong>Unit 5</strong>: Beautiful &quot;Central Dogma&quot;</td>
<td>photography; photoshop; scale &amp; proportion; form</td>
<td>gene expression and regulation</td>
</tr>
<tr>
<td>4/13-5/3</td>
<td><strong>Unit 6</strong>: Artistic Microbial Journey</td>
<td>sculpture; ink printing; Drawing</td>
<td>Regulation of Gene Expression; Epigenetics; Molecular Evolution</td>
</tr>
<tr>
<td>10-May</td>
<td><strong>Unit 7</strong>: Wrap-up - Final Oral Assessment at Gallery Art Show</td>
<td></td>
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</tr>
</tbody>
</table>

***We reserve the right to make changes to the course schedule and syllabus at any time.***
"Art of Life" BIOL 1408/ARTS 1301 Learning Community Lab Schedule Spring 2019 - Profs. Brie Day and Val Curry

<table>
<thead>
<tr>
<th>Week #</th>
<th>Lab Date</th>
<th>Activity(-ies) During Friday Lab Session</th>
<th>Lab Handouts/Project(s) Due</th>
<th>Lab Date</th>
<th>Week #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25-Jan</td>
<td>Lab Safety; Microscopy and the Cell, Cheek Cell Painting</td>
<td></td>
<td>25-Jan</td>
<td>1</td>
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<tr>
<td>2</td>
<td>1-Feb</td>
<td>pGLO Bacterial Transformation; Shape-Space GFP Cut</td>
<td>Lab Safety Signature Sheet; Microscopy and the Cell Lab Handout</td>
<td>1-Feb</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>8-Feb</td>
<td>Cheek Cell DNA Extraction; DNA sculpture</td>
<td>Cheek Cell Painting</td>
<td>8-Feb</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>15-Feb</td>
<td>Forensic DNA Fingerprinting</td>
<td>pGLO Bacterial Transformation Lab Handout; Shape-Space GFP Cut</td>
<td>15-Feb</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>22-Feb</td>
<td>DNA Linocut</td>
<td>Cheek Cell DNA Extraction Lab Handout; DNA Sculpture</td>
<td>22-Feb</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>1-Mar</td>
<td>No Lab - Faculty Professional Development</td>
<td></td>
<td>1-Mar</td>
<td>5</td>
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<tr>
<td>7</td>
<td>8-Mar</td>
<td>Samuell Farm Field Trip; Zoom-In Project I</td>
<td>Forensic DNA Fingerprinting Lab Handout</td>
<td>8-Mar</td>
<td>6</td>
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<tr>
<td>8</td>
<td>15-Mar</td>
<td>No Lab - Spring Break</td>
<td></td>
<td>15-Mar</td>
<td>7</td>
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<tr>
<td>9</td>
<td>22-Mar</td>
<td>Zoom-In Project II</td>
<td>DNA Linocut</td>
<td>22-Mar</td>
<td>8</td>
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<tr>
<td>10</td>
<td>29-Mar</td>
<td>Protein Sculpture</td>
<td></td>
<td>29-Mar</td>
<td>9</td>
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<tr>
<td>11</td>
<td>5-Apr</td>
<td>Petri Dish Art</td>
<td></td>
<td>5-Apr</td>
<td>10</td>
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<tr>
<td>12</td>
<td>12-Apr</td>
<td>Biolnk Print</td>
<td>Protein Sculpture</td>
<td>12-Apr</td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>19-Apr</td>
<td>No Lab - Holiday</td>
<td></td>
<td>19-Apr</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>26-Apr</td>
<td>MEGA &quot;Tree of Life&quot; Drawing I</td>
<td>Zoom-In Project; Petri Dish Art</td>
<td>26-Apr</td>
<td>13</td>
</tr>
<tr>
<td>15</td>
<td>3-May</td>
<td>MEGA &quot;Tree of Life&quot; Drawing II</td>
<td>MEGA Lab Handout; Biolnk Print</td>
<td>3-May</td>
<td>14</td>
</tr>
<tr>
<td>16</td>
<td>10-May</td>
<td>Final Oral Exam: &quot;Art of Life&quot; Art Show</td>
<td>MEGA &quot;Tree of Life&quot; Drawing</td>
<td>10-May</td>
<td>14</td>
</tr>
</tbody>
</table>

*We reserve the right to make changes to this course schedule at any time.*