



# BIO102 Course Syllabus

## *Biological Sciences 102*



COURSE TITLE:	<u>Biological Science II</u>	PREFIX & NUMBER:	<u>BIO 102</u>
LECTURE HOURS:	<u>4.5/week</u>	LAB HOURS:	<u>4.5/week</u>
CONTACT HOURS:	<u>6.0</u>	CREDIT HOURS:	<u>4.0</u>

### *Catalog Description:*

This course is a continuation of introductory biology and includes classification of organisms, structural and functional considerations of all kingdoms, particularly major phyla as well as viruses. Vertebrate animals and vascular plants are emphasized.

Prerequisite: BIO 101

### *Required Materials:*

- Sylvia Mader BIOLOGY, Tenth Edition, 2010  
McGraw – Hill Publishing Company, Inc.
- Sylvia Mader, BIOLOGY Laboratory Manual, Tenth Edition, 2010  
McGraw-Hill Publishing Company, Inc.
- Dissection Kit, Rubber Gloves, and Protective Eyewear for Dissections

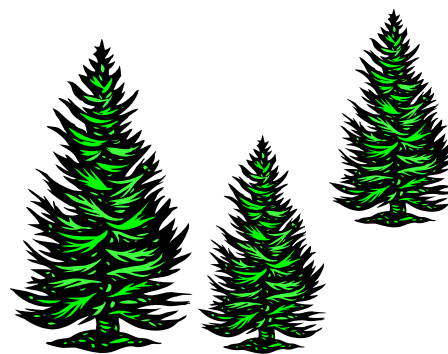


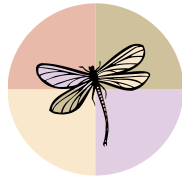
Each student is responsible for securing instruments for the dissection of preserved organisms. An individual or a group of not more than three students may meet this requirement.

- **IMPORTANT:** Due to the fact that we are working with chemicals, preserved specimens, and dissection instruments, students are not permitted into the laboratory with sandals or open-toed shoes.

### *Suggested Materials:*

- Dissection Guide: Van de Graff and Crawley, Photographic Atlas for the Biology Laboratory, Publishing Company.
- Lab Coat or Cover Shirt





### ***Core Competencies:***

All courses approved for the general education core curriculum develop a student's critical thinking and communication skills. This course develops critical thinking skills through instruction that emphasizes the understanding of the interrelationships between all phyla of biological organisms. This will be demonstrated by assessments throughout the semester and on the final exam. Students will demonstrate critical thinking in the following areas:

- Understanding how the structures of viruses, bacteria, protists, plants, and animals are related through their cellular nature and a taxonomic scheme.
- Dissecting specimens and comparing external and internal structures and describing the distinguishing anatomical and physiological characteristics that pertain to basic metabolic functions and morphogenesis.
- Comparing anatomical and physiological systems of lower animals to those found in the human body.

### ***Accommodations for Students With Special Needs:***

The College will make reasonable accommodations for persons with documented disabilities. Students should notify the Counselor for Students with Disabilities (located in Building 410, Room 210) and their instructors of any special needs.

### ***Access to Computers for Academic Courses:***

The college has computer labs available for student use on all three campuses. Students who experience problems with home computers should plan to accomplish their assignments at the college.



<u><b>Grading Scale for BIO102</b></u>	<u><b>Make-up Test Policy</b></u>																												
<p>Grading is accomplished by combining all points that you have earned for lecture exams, quizzes, laboratory assignments/practicals and converting this sum to a percentage score. Grades will be generated according to the following scheme.</p> <p>4 Lecture Exams @ 100 Points = 400 Points            2 Laboratory Exams @ 100 Points = 200 Points            10 Laboratory Quizzes @ 15 Points = 150 Points            5 Lecture Quizzes @ 20 Points = 100 Points            1 Final Exam @ 150 Points = 150 Points</p> <table style="margin-left: 40px;"> <tr><td>1000</td><td>-</td><td>910 Points</td><td>=</td><td>A</td><td>=</td><td>91%</td></tr> <tr><td>909</td><td>-</td><td>810 Points</td><td>=</td><td>B</td><td>=</td><td>81%</td></tr> <tr><td>809</td><td>-</td><td>710 Points</td><td>=</td><td>C</td><td>=</td><td>71%</td></tr> <tr><td>609</td><td>-</td><td>650 Points</td><td>=</td><td>D</td><td>=</td><td>65%</td></tr> </table>	1000	-	910 Points	=	A	=	91%	909	-	810 Points	=	B	=	81%	809	-	710 Points	=	C	=	71%	609	-	650 Points	=	D	=	65%	<p>Make-up tests require the student to document a serious reason for having missed the examination. A doctor's note or other letter explaining the absence will be required. If the conditions are not met, the student will receive a zero for the exam. Only one make-up exam is allowed per term. All make up exams will be essay in nature and must be taken within one week of the students return to class. Lecture quizzes and lab quizzes cannot be made up. However, the lowest score will be dropped.</p> <p>Make-up exams will not be provided for missed lab midterm or final exams.</p>
1000	-	910 Points	=	A	=	91%																							
909	-	810 Points	=	B	=	81%																							
809	-	710 Points	=	C	=	71%																							
609	-	650 Points	=	D	=	65%																							

Students may determine how well they are progressing by dividing the number of points earned by the number of points attempted and multiplying the result by 100. For example, if a student has earned a total of 257 points by taking the first three 100 point lecture tests, the student's average grade would be 85.6% according to the following calculation.

$$\frac{\text{Points earned } 257}{\text{Points attempted } 300} \times 100 = .856 \times 100 = 85.6\%$$

***Incompletes:***

The grade of Incomplete (I) represents incomplete work and is a temporary grade that must be approved by the instructor at the end of the course. In the instances where a grade of (I) may be requested, documented evidence of medical or family emergency must be provided and the student must have a passing grade in the course. The student must complete the requirements by the following midterm or the grade will be changed to an (F).

***Lecture Preparation:***

Biology lecture notes and practice exams can be downloaded from the BIO102 web page at <http://home.comcast.net/~jroyce> Specific course objectives can be found on the web page and are provided at the beginning of each chapter. These objectives serve as an instructional guide to the material in the chapter. Lecture and lab schedules will be provided as a supplement to this syllabus.

**At least six 20-point unannounced quizzes will be given in each lecture section.**

### ***Laboratory Procedures:***

Lab topics have been chosen and organized to follow closely the lecture topics. A schedule of lab activities is included in this syllabus and should be referred to PRIOR to each lab meeting. Students are expected to prepare for lab by reading the scheduled exercise. Data is usually collected and logged on forms included in the lab manual. Therefore, it is imperative that you bring your lab manual to every session. Students are required to wear safety glasses, latex gloves and protective footwear during laboratory dissections.

Due to the large enrollment, lack of lab space, and complexity of lab set ups, lab exercises you miss will not be made up in the lab. However, two of the lab quiz grades may be dropped from your final lab total. If you can attend another lab section where seating is available, full credit will be given. Twelve 10-point quizzes are scheduled to be given the end of each lab period. The questions will be derived from the information in your lab manual and from the techniques used during the lab.

Each student is responsible for securing instruments for the dissection of preserved organisms. A group of not more than three students may meet this requirement.

Laboratory Practical Examinations will be given at midterm and at the end of the term. They will consist of questions related to materials and techniques used in the lab exercises. **Due to the complexity of the lab tests with specimen dissections, microscope set-ups and the lab time required to take the tests, make-up exams will not be provided.**

For your safety, if you have a medical condition that results in seizures, blackouts, etc. (e.g., from epilepsy, diabetes), please inform your instructor before the first laboratory session. This information will be kept confidential. If you wish to seek accommodations due to a disability, please contact Services for Students with Disabilities, Building 410, Room 210.
--

### ***Electronic Communication Devices in the Classroom:***

To minimize classroom disruptions and protect the integrity of test-taking situations, activated electronic communication devices such as pagers and telephones are generally not permitted in classrooms at Trident Technical College. The exception to this policy will be for on-call emergency personnel (police, fire, EMS), who will be required to notify their classroom instructor of their need for such devices at the beginning of the term.

### ***Veteran Students Enrolled in Online & Distance-Learning Sections:***

To confirm that you are actively involved in this course you need to contact the instructor at least once per week. Forms of contact can include (but are not limited to) posting/receiving emails, participating in online class discussions or chat rooms, and completing and submitting course assignments. Please see the instructor's addendum for any additional instructions.

### ***Department of Biology Attendance Policy:***

Before attending classes, students must meet all prerequisites and officially register for all courses. Prompt and regular attendance is the responsibility of the students. Students are responsible for all material covered and all assignments made in class. Any time you are absent from a class, laboratory or other scheduled events, it is your responsibility to make satisfactory arrangements for any make-up work if permitted by the instructor.

Students arriving late for an examination will not be allowed to take the examination if other students have completed the examination and left the classroom. A make-up exam may be allowed if the situation dictates. Quizzes are usually given at the beginning of the period. Students arriving late will not be permitted to take the quiz if answer sheets have begun to be collected. Quizzes may not be made up if missed.

An absence is defined as nonattendance for any reason, including illness, emergency or official leave. If a student arrives late or leaves before the instructor dismisses class, the student may also be considered absent. All class sessions are important. Any time a student misses a class he/she increases the risk of making a failing grade. The final course grade for any student whose absences exceed 20% of the scheduled meeting time, 18 hours for this course, may be reduced by one letter grade.

If a student quits participating in the course and does not officially withdraw by the withdrawal date for each semester, that student will receive a grade of F or U. Your instructor cannot assign a grade of W. If a student receives financial aid or veterans aid, his/ her aid may be revised as a result of any changes in their course schedule.

### ***Instructor Availability:***

Your instructor is available to you outside of class for academic assistance. Full-time faculty maintain and post regularly scheduled office hours. Part-time faculty are accessible in a variety of ways, which may include conferences before and after class or by appointment, telephone conferences, and E-mail.



## *BIO 102 Lecture Schedule for Spring 2010*

*Mader Biology 10<sup>th</sup> Edition*

<b>WEEK</b>	<b>TOPIC</b>	<b>ASSIGNMENT</b>
Week 1:	Introduction and Orientation to Biology II	
	Origins of Life	Chapter 18 pp. 317-322
	Development of Organisms	Chapter 18 pp. 323-334
Week 2:	Classification of Organisms	Chapter 19 pp. 337-351
	Viruses	Chapter 20 pp. 354-362
	Bacteria	Chapter 20 pp. 362-370
Week 3:	Algal Protists	Chapter 21 pp. 373-383
	Animal Protists	Chapter 21 pp. 383-390
	<b>EXAMINATION 1</b>	
Week 4:	Fungi	Chapter 22 pp. 393-405
	Seedless Nonvascular and Vascular Plants	Chapter 23 pp. 408-419
	Seed Plants – Gymnosperms & Angiosperms	Chapter 23 pp. 420-430
Week 5:	Flower Structure & Fertilization	Chapter 27 pp. 493-497
	Plant Structures and Function	Chapter 24 pp. 433-439
	Roots, Stems, and Leaves	Chapter 24 pp. 440-452
Week 6:	Plant Nutrition and Transport	Chapter 25 pp. 455-470
	<b>EXAMINATION 2</b>	
	Animal Development – Phyla Porifera & Cnidaria	Chapter 28 pp. 510-519
Week 7:	Phyla Ctenophora, Platyhelminthes & Rotifera	Chapter 28 pp. 520-523
	Phyla Molluska & Annelida	Chapter 28 pp. 523-527
	Phyla Nematoda & Arthropoda - Crustaceans	Chapter 28 pp. 528-531
Week 8:	Phylum Arthropoda – Insects	Chapter 28 pp. 531-533
	Phylum Arthropoda – Chelicerates	Chapter 28 pp. 533-534
	Phylum Echinodermata	Chapter 28 pp. 534-536
Week 9:	<b>EXAMINATION 3</b>	
	Lower Chordates and Primitive Fishes	Chapter 29 pp. 539-543
	Higher Fishes: Chondrichthyes & Osteichthyes	Chapter 29 pp. 543-546
Week 10:	Amphibians	Chapter 29 pp. 546-548
	Reptiles	Chapter 29 pp. 548-552
	Birds & Mammals	Chapter 29 pp. 552-557
Week 11:	Early Primates	Chapter 30 pp. 559-563
	Advanced Primates	Chapter 30 pp. 564-573
	<b>EXAMINATION 4</b>	
Week 12:	Circulatory System	Chapter 32 pp. 593-605
	Blood	Chapter 32 pp. 606-610
	Digestive System	Chapter 34 pp. 633-642
Week 13:	Nutrition	Chapter 34 pp. 643-647
	Neurons	Chapter 37 pp. 679-687
	Brain Function	Chapter 37 pp. 688-697
Week 14:	Male Reproductive System	Chapter 41 pp. 755-761
	Female Reproductive System	Chapter 41 pp. 762-773
	<b>FINAL EXAMINATION</b>	

## *BIO102 Laboratory Schedule for Spring 2010*

*Mader Biology Lab Manual 10<sup>th</sup> Edition*

LAB WEEK	ASSIGNMENT
1	Lab Orientation, Lab Safety, and Microscope Review Lab Exercise 2.2-2.5 + Microscope Handout Sheet
2	Lab Exercise 14.1 Taxonomy and Survey of Bacteria Lab Exercise 14.1 Gram Stain of Bacteria
3	Lab Exercise 14.2 Kingdom Protista – Photosynthesizing Protists - Algae Lab Exercise 14.2 Kingdom Protista – Heterotroph Protists - Protozoa
4	Lab Exercise 15 Survey of the Kingdom Fungi Lab Exercise 16 Survey of the Plant Kingdom - Nonvascular Plants
5	Lab Exercise 16 Survey of the Plant Kingdom - Lower Vascular Plants Lab Exercise 17 Survey of the Plant Kingdom - Gymnosperms
6	Lab Exercise 17 Survey of the Plant Kingdom – Angiosperms Lab Exercise 18 Plant Anatomy
7	<b>MIDTERM LAB EXAM</b>
8	Lab Exercise 22 Phyla Porifera and Cnidaria Lab Exercise 22 & 33 Phyla Platyhelminthes, Nematoda, & Rotifera
9	Lab Exercise 23 Phylum Molluska – Clam & Squid Dissection Lab Exercise 23 Phyla Annelida – Earthworm Dissection
10	Lab Exercise 23 Phylum Arthropoda – Crayfish Dissection Lab Exercise 23 Phylum Arthropoda – Grasshopper Dissection
11	Lab Exercise 23 Phylum Echinodermata – Starfish Dissection Lab Exercise 24 Lower Chordates and Perch Dissection
12	Lab Exercise 24 Frog Dissection Lab Exercise 24 Frog Dissection
13	Lab Exercise 26 Fetal Pig Dissection Lab Exercise 27 Fetal Pig Dissection
14	<b>FINAL LAB EXAM</b>

*Due to the irregularities of scheduling and vacation dates, some of the labs may vary from week to week. Lecture and lab schedules are tentative and are subject to change with approval from the Chairman of the Department of Biological Sciences.*

