Rockford High School - IB World School
DP Biology HL (Year 1) Syllabus 2025-26

Teacher: Elizabeth Schoeller

Phone: 763-477-5846

Email: Elizabeth.Schoeller@Rockford883.org

Availability: After school and Rocket Block by appointment

Course Description

This is the first year in a two-year sequence. The course moves at an accelerated pace as it meets all the requirements of the IB curriculum. All of the topics covered are common to a Freshman-Level college course, including: cellular biology, molecular biology, genetics, human physiology, evolution and biodiversity, and ecology. After successful completion of this course, students will have the option of taking DP HL Biology YR 2, which includes the DP Exam and Scientific Investigation, their senior year.

Standards

This course is aligned with the Minnesota Standards for Biology, last updated in 2019 as well as International Baccalaureate guidelines.

RHS is an IB World School

RHS Mission Statement: The mission of Rockford High School is to foster the development of a caring environment by prioritizing personal relationships and creating a collaborative culture that prepares all students to become inquisitive lifelong learners who act as compassionate global citizens.

IB Mission Statement: The International Baccalaureate® aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment. These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

What does IB Programming Look Like in this Classroom? In my classroom, you'll see students engaging in their learning. You'll see students working together in discussion to grow in their understanding. You'll see me acting as a guide and expert learner to curate resources that support knowledge growth. You'll see the hard work of learning. The IB DP Programme emphasizes the learner profile traits. In this classroom, what students have learned about inquiry, communication, thinking, and reflection will be especially relevant in students' 11th and 12th grade coursework, as well as the interdisciplinary work that students have completed. Students work to tie their learning to other disciplines, to their community, and to global issues.

Materials

Google Classroom is our learning platform; students will be added to the classroom at the start of the term. Infinite Campus is our student information system, students and parents may access via the portal.

Course Text: Oxford Biology Course Companion, 2023 Edition Biology, Andrew Allott and David Mindorff

Supplemental Texts: IB Biology Student Workbook by Biozone, 3rd Edition and Oxford Study Guide for IB Biology

Students will need:

1. School-issued Chromebook
2. 2” or 3” 3-ring binder (to be left in classroom to save completed work)
3. Folder (to hold in progress and current work)
4. Calculator
5. Writing utensils, highlighters, etc.

Course Units and Summative Assessments

This course follows the IB Biology 2025 Syllabus which recommends across the two years 180 hours of content learning time and 60 hours of laboratory work, including in class investigations as well as the Internal Assessment (scientific investigation) and a Collaborative Sciences Project.

IB Biology Syllabus Overview				
Theme	**Biological Level**	**Subset**	**Hours**	**Semester**
A Unity and Diversity	1. Molecules	A1.1 Water	3	Year 1 Fall
		A1.2 Nucleic Acids	5	
	2. Cells	A2.1 Origins of cells	2	
		A2.2 Cell structure	5	
		A2.3 Viruses	2	
	3. Organisms	A3.1 Diversity of organisms	5	
		A3.2 Classification and cladistics	3	
	4. Ecosystems	A4.1 Evolution and speciation	5	
		A4.2 Conservation of biodiversity	3	
B Form and Function	1. Molecules	B1.1 Carbohydrates and lipids	4	
		B1.2 Proteins	4	
	2. Cells	B2.1 Membranes and membrane transport	6	
		Semester Laboratory Practicals	*10.5*	
		Total	***57.5***	
		B2.2 Organelles and compartmentalization	6	Year 1 Spring
		B2.3 Cell specialization	3	
	3. Organisms	**B3.1 Gas exchange**	4	
		B3.2 Transport	5	
		B3.3 Muscle and motility	3	
	4. Ecosystems	B4.1 Adaptation to environment	3	
		B4.2 Ecological niches	4	
C Interaction and Interdependence	1. Molecules	C1.1 Enzymes and metabolism	5	
		C1.2 Cell respiration	5	
		C1.3 Photosynthesis	6	
	2. Cells	**C2.1 Chemical signaling**	4	
		C2.2 Neural signaling	6	
		Semester Laboratory Practicals	*12*	
		Total	***66***	
	3. Organisms	**C3.1 Integration of body systems**	7	Year 2 Fall
		C3.2 Defense against disease	5	
	4. Ecosystems	C4.1 Populations and communities	5	
		C4.2 Transfers of energy and matter	5	
D Continuity and Change	1. Molecules	D1.1 DNA replication	4	
		D1.2 Protein synthesis	6	
		D1.3 Mutations and gene editing	5	
	2. Cells	D2.1 Cell and nuclear division	4	
		D2.2 Gene expression	3	
		Semester Laboratory Practicals	*9*	
		Internal Assessment	*10*	
		Total	***63***	

IB Biology Syllabus Overview				
Theme	**Biological Level**	**Subset**	**Hours**	**Semester**
		D2.3 Water potential	4	Year 2 Spring
	3. Organisms	**D3.1 Reproduction**	8	
		D3.2 Inheritance	8	
		D3.3 Homeostasis	4	
	4. Ecosystems	D4.1 Natural selection	4	
		D4.2 Stability and change	6	
		D4.3 Climate change	4	
		Semester Laboratory Practical	*9*	
		Collaborative Sciences Project	*10*	
		Total	***57***	

Bolded subsets will be included in grade calculation for SCSU BIOL 103: Human Body during spring semester of Year 2.

IB Specific Assessments

The following IB assessments will take place in spring semester of Year 2:

IB Biology Assessment Outline	
Assessment Component	**Weighting**
External Assessment (4 hours and 30 minutes) There are two parts to the external assessment, taken in the Spring of Year 2: *Paper 1 (2 hours)* Paper 1A: Multiple choice questions Paper 1B: Data-based questions (four questions that are syllabus related, addressing all themes) (Total 75 marks) *Paper 2 (2 hours and 30 minutes)* Section A: Data-based and short answer questions Section B: Extended-response questions (Total 80 marks)	**80%** *36%* *44%*
Internal Assessment (10 hours) The internal assessment consists of one task: the scientific investigation, which will be completed in the fall of Year 2. This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. (Total 24 marks)	**20%**

DP Biology HL (Year 2) is a Co-Seated Course which meets the requirements for: Saint Cloud State University's CIS BIOL 103: Human Biology (3 credits) and IB Biology HL 2 (2 RHS Science credits). The bolded subsets in the syllabus overview indicate which subsets will be included in the CIS grade.

RHS Expectations

Expectations of Students

- Be accountable for their learning.
- Be a strong self-advocate and let teachers know when additional support is needed.
- Ask questions when they do not understand an assessment task, the course content, or how to complete a task.
- Produce quality products and performances to the best of their ability.
- Know how their work will be assessed and refer to assessment criteria before and while they are completing their work.
- Be aware of due dates and meet them.
- Always turn in one's own, originally produced work (as opposed to AI-generated work or that of another author), upholding a culture of academic integrity and authentic intellectual engagement (refer to District Policy 506)
- Model the IB learner profile attributes.
- Students who do not meet classroom and course expectations may be subject to RHS insubordination policy.

Expectations of Parents

- Work as partners with students, teachers and support staff to communicate learning successes and concerns.
- Recognize their student's learning strengths and areas for growth.
- Regularly monitor their student's academic growth and progress in Infinite Campus.
- Participate in the learning process by providing an appropriate learning environment and support at home.
- Model the IB learner profile attributes.

Expectations of Teachers

- Practice on-going assessment, taking into account learning processes and products.
- Vary the types of assessment tasks used in each course.
- Provide students with feedback on learning activities or formative assessments prior to attempting summative assessments.
- Provide clear due dates for assessments and if appropriate, checkpoints along the way.
- Provide multiple opportunities to show mastery.
- Engage students in reflection and self-evaluation.
- When appropriate, differentiate and modify assessments to meet student needs.
- Model the IB learner profile attributes.

Classroom Engagement

Students should always meet teacher expectations. A brief description of student expectations are provided above. In each RHS classroom the following specific expectations are in place:

Attendance

Students are expected to attend each scheduled class daily, arrive on time, be ready to learn, and stay in class for the full duration of the period. Students who arrive late will be marked tardy by the classroom teacher. Students who arrive more than 10 minutes late or who miss 10 or more minutes of class will be marked absent by the classroom teacher.

Behavior

Students are expected to abide by the classroom rules set forth by the teacher and act in accordance with expectations in the Parent/Student Handbook. Teachers will practice non-exclusionary disciplinary response methods. Should a student continue to disrupt the learning environment, teachers will work with office staff using our progressive disciplinary strategies.

Cell Phones and Personal Technology

Per state law, cell phones and personal technology are not allowed during class time; they may be used during passing time and lunch period only.

- Students who need to be in contact with their family during the academic day are to ask permission to use a school phone. Parents can reach students with messages by contacting our main office.
- Headphones may be allowed at designated times for instructional purposes on school approved devices.
- Phone use of any kind is not permitted in locker rooms or bathrooms; phone use during drills or lockdowns is also prohibited.
- Recording or taking photos must be done with permission from staff or peers; recording with the intent to bully or harass will be addressed in accordance with district Bullying and Harassment policy.
- Appropriate exceptions for health monitoring or IEPs/504s will be made at the principal's discretion.

In this classroom, phones and personal technology will be **placed in the cell phone pouch** during class. If your phone is seen or heard in class it will be placed on the teacher's desk for the remainder of the day and the appropriate steps will be taken per our phone policy.

Grading

The primary purpose of grading is to communicate the academic achievement status of students to students, their families, employers, and post-secondary institutions. A grade should accurately reflect what students know and are able to do in a course. Student work should be the best work they can produce so that their learning is clearly demonstrated.

Although grades will purely be based on academic performance, academic skills are an important part of success in this course (and future challenging course work). I will do my best to periodically assess and communicate how students are progressing in areas of note-taking, in class participating, etc.

Grade Categories

10% Formative	In class quizzes at the end of each section which will be self graded (with teacher guidance)
90% Summative	*Tests*: Tests will occur at the end of each level within each theme - for example, the first test will be on Theme A: Unity and Diversity, Level 1: Molecules. It will include both A1.1 Water and A1.2 Nucleic Acids. *Lab Report:* One summative lab report will be submitted per semester based on inquiry lab work the student conducts during class. This is in preparation for the Scientific Investigation during Year 2. *Final Exam:* The final exam in this course for both semesters will be cumulative. This is meant to encourage review throughout the course in preparation for the IB exams in spring of Year 2. Each worth 50 points.

Calculation of Grade

Letter grades will be calculated with a weight of at least 70% of the grade based on summative assessments and no more than 30% of the grade based on learning activities and formative assessments.

This course is GPA weighted. GPA weighted courses are those in which the curriculum is significantly more challenging and a student GPA will reflect a two grade (.66 in grade points) increase.

The same grading scale is used in all RHS courses.

The Grading Scale below is used to calculate letter grades.		
	A 93-100%	A- 90-92%
B+ 87-89%	B 83-86%	B- 80-82%
C+ 77-79%	C 73-76%	C- 70-72%
D+ 67-69%	D 63-66%	D- 60-62%
	F 0-59%	

Missing & Late Work

Teachers will set all due dates and deadlines. Due dates are when formative and summative tasks should be submitted. Deadlines are the *last possible dates* of submission for those tasks if completed late.

- Lab report deadlines will be communicated in advance. If a report is turned in past this date, one point from the final grade will be deducted for each school day after the deadline has passed.
- Students with an excused absence will need to make up a missed test or quiz **the first rocket block after their absence**. Unexcused absences will result in a zero.

Re-Learning and Retakes

1. Select assessments are eligible for relearning and reassessment as indicated by the teacher.
2. Retakes must be completed within two weeks unless otherwise indicated by the teacher.
3. A relearning plan must be completed by the student to outline the process for relearning and reassessment (except in cases of whole-class relearning opportunities).

Academic Honesty

All students are expected to demonstrate academic integrity which includes honesty, trust, fairness, respect, and responsibility. All work submitted for credit in any class is expected to be produced by and be the original work of the student submitting it. Work created in whole or in part using ChatGPT or other AI is NOT considered the original work of the student. All resources utilized in student work should be appropriately cited in MLA format.

Consequences for violating this policy may include: redoing the assignment, completing a new assignment, loss of credit for the assignment/s, loss of credit for the course, removal from the course, or suspension from school.

You can view the entire Academic Honesty Policy on our website.

Extra Credit

No extra credit will be offered in this course. A teacher is not required to offer extra credit in any given course. Extra credit (if offered) must be aligned to the standards. Teachers of the same course will agree to any offering of extra credit. Extra credit must be equitable to all students so that all students have the opportunity to access it.

Incompletes

In order for an "incomplete" to be granted for a final semester grade, the student and teacher must meet to discuss the circumstances. All work must be completed within two weeks of the last day of the semester or the grade will be considered an F; unless there are extenuating circumstances at the discretion of the Principal.

Students with Special Circumstances

Students with a Section 504 plan or Individual Education Plan (IEP) may require modifications to assessment. Any modifications to assessment will be stated in the student's 504 plan or IEP. Students whose first language is not English (ELL students) may need additional support to meet all content area objectives or may need modification to assessments. This will be determined by a collaboration of the subject area teacher and ELL teacher.

More information can be found in the RHS Inclusion and Language Policies available on our website.

Laboratory Safety Expectations

This is a lab-oriented course and a considerable amount of our time will be spent in the lab. Laboratory investigations provide students with the opportunity to explore phenomena and science concepts themselves and are a vital part of all science curricula. With the cooperation of the teachers, guardians, and students, a safety instruction program can eliminate, prevent and correct possible hazards. Students will be instructed in laboratory safety at the beginning of the year and prior to beginning all laboratory investigations. Students are expected to pay attention to all instructions as well as their surroundings and follow all procedures carefully. If students are unsure of what to do or how to perform a step they should always ask for assistance.

Students will be asked to sign the Laboratory Safety Contract before participating in laboratory activities.