

Save the Practical Physiology Lab with BSL HOME: Q&A

On-demand Webinar: <https://www.biopac.com/events/save-the-practical-lab/>

Payment and Rentals:

1. **What is the price of BSL HOME?**
 - a. Prices are unique to each institution's requirements. Some may prefer to rent devices for each student, others will want students to share the cost of a unit, and some institutions will want to purchase outright.
2. **Can the university buy BSL HOME units instead of renting?**
 - a. Yes, BSL Home may be purchased as BSL HOME-B. Contact your salesperson for a formal quotation.
3. **Can instructors get a demo unit or instructor copy?**
 - a. Instructors can purchase a single unit but may not need to as Account Managers are scheduling remote BSL HOME demonstrations for instructors.
4. **Is BSL HOME achievable for labs with hundreds of students?**
 - a. Rental contracts for BSL HOME allow large labs to provide each student with a hands-on lab without having to purchase a unit for each student with the "student-to-system ratio" option. For you to get the most accurate price based on your unique situation (class size, renting vs. owning, distribution preference), please request a formal quotation from your [regional salesperson](#).
5. **How does the rental for student work?**
 - a. The instructor decides on the student-to-system ratio (see chart in Q6). The student registers for their rental on our website and pays the student fee directly to BIOPAC. BIOPAC ships the system directly to the student. When the student has completed the labs in the timeframe allotted by the professor, the student is expected to ship the system back to BIOPAC for testing and sanitizing. BIOPAC will ship the unit to next student in the queue. Instructors have the option of managing the distribution with students themselves. In this case, BIOPAC will ship all systems to the instructors to distribute, then instructors will ship all units back to BIOPAC.
6. **How long would each student have the BSL HOME system for in different scenarios? Can you provide details on how long each student would have the system in their hands (i.e. not including shipping time)?**

<u>Ratio</u>	<u>Shipping Time</u>	<u>Time with student (Semester)</u>	<u>Time with student (Quarter)</u>
1:1 Ratio	2 weeks	13 weeks	8 weeks
1:2 Ratio	4 weeks	6.5 weeks	4 weeks
1:3 Ratio	6 weeks	4.3 weeks	2.67 weeks
1:4 Ratio	8 weeks	3.25 weeks	2 weeks

- 7. Can you explain how a rental contact with a “3:1 Student to System” ratio works? How is one device logistically shared between three students?**
 - a. Each student will have the system for a limited amount of time. In the 3:1 ratio, each student will have the system for 4.3 weeks of the semester. (see above chart on Q6) If the instructor chooses the “BIOPAC distributes” option, then students will use their provided prepaid return label to ship it back to BIOPAC. At BIOPAC, the unit will be tested, sanitized and shipped out to the next student in line. If the instructor chooses the “Instructor distributes” option, then the student would return their unit back to the instructor and the instructor would replenish the consumables and distribute the unit to the next student.
- 8. Does every student get a BSL HOME unit? How does this work if 1 unit is issued per group (4 students)?**
 - a. If you choose the 1:1 Student to System ratio, each student will have their own unit. If you choose the 1:4 Student to System ratio, the unit will be distributed between 4 students (either by BIOPAC or the instructor). Please see question 14 for more details on the logistics.
- 9. Is there insurance for damage/non-returned items?**
 - a. When ordering units, instructors can choose one of two “liability options”. The first option requires the instructor to pay 10% of the contract up-front to cover any missing or damaged units at the end of their rental agreement. In the second option, students are charged another rental fee if they do not return their unit in time. If the unit is not returned on time, instructors and students are alerted. Additionally, if a student returns a damaged unit, they must pay for the damage up to the full cost of the device (depending on its severity).
- 10. If a student does not return their BSL HOME unit on time, will that inhibit the next student from receiving a unit and participating in labs?**
 - a. When you order your allotment of units you may want to account for a few extras if you do not pay 10% down for BSL HOME insurance. Additionally, if you opt to pay 10% up-front BIOPAC will provide extra units in the case that students do not return theirs on time. We will also send the students email alerts to return their unit if you choose the “BIOPAC distribution” method. As an instructor, you may also choose to be creative and assign some points to the timely return of units as an extra incentive.
- 11. What would happen if a student drops the course and does not return the unit? How would the other students get access to the equipment?**
 - a. The 10% insurance fee covers the cost of un-returned units. It would also provide extras to your other students in case there is a small shortage. If your plan does not include BSL HOME insurance, the student will be charged additional rental terms until either the unit is returned or the cost of the unit is covered. Please refer to the answer to question 11 for more information.
- 12. For rentals, are the school and student responsibility (fee) both required? Is it possible for the school or student to cover 100% of the fees?**
 - a. Splitting costs between the school and student provides the most affordable options for both parties. However, BIOPAC can provide flexible pricing if you need the costs distributed differently.
- 13. Could each student complete all 9 lessons when they have the unit for 3 weeks before they have to return BSL HOME for other students to use?**
 - a. Each student would have plenty of time to complete all 8 lessons in a 3-week period, if they chose to.

- 14. Can institutions rent BSL HOME systems for both Fall and Spring semesters?**
- Schools pay the contract fee for both Fall and Spring terms to reserve their allotted BSL HOME units.
- 15. How does data from BSL HOME compare to data collected with the MP36 (standard with in-lab BSL systems)? Do they both use the same software?**
- Yes, they both use the same software however the BSL HOME lessons are adapted for recording a single channel of data. The system is very similar, except for the number of channels of data that can be recorded by the student. The BSL HOME hardware will allow the student to record a single channel of data for ECG, EEG, EMG, EOG, Respiration signals. The data quality is high and comparable to the equipment you are already familiar with.
- 16. Does BSL HOME require separate transducers for each lesson or do they use the standard lead set and electrodes.**
- All lessons use the provided lead set and electrodes.
- 17. What is included with each BSL HOME system? What should you do if students require more supplies?**
- In the box, the student receives the BSL HOME system and 60 disposable electrodes. If the student or instructor needs more electrodes, they can be ordered from www.biopac.com (PN: [EL503](#)).
- 18. How do you get the software for students to use at home?**
- We email the students a link to install the software from home.
- 19. Can I do a hearing and balance lab?**
- Yes, with BSL HOME you have the option to create your own lessons. Creativity is encouraged!
- 20. Can I use BSL HOME to do a reflex and reaction lab?**
- The reflex and reaction lab from Biopac Student Lab is not included with BSL HOME. However, you could easily adapt your own lesson! Contact your account manager for ideas.
- 21. Can you record EDA with BSL HOME?**
- Currently we do not offer EDA with BSL HOME. We are working on a solution that will allow instructors to offer EDA with the system. We will keep you updated when this becomes available.
- 22. If we use a 1:4 ratio plan, will all students be able to download software from the beginning of the semester so they can work together even if only one student has the unit?**
- Students have access to [RSD software](#) from the beginning of the semester so that they can review lessons material and analyze data.
- 23. What kind of computer hardware is required? Is a USB port required? Will BSL HOME run with a tablet?**
- The students require access to a windows or Mac computer running the following operating system. Windows: 10, 8, 7 and Macintosh 10.13 – 10.10. The following link will provide you with additional information about the specific hardware recommendations for BSL v4. <https://www.biopac.com/wp-content/uploads/compatibility.pdf>

- 24. I do not understand how students would share a unit when we have lab every week. Would they have to complete all the labs at once?**
- The student has the option to complete all of the labs over the 2+ week period that they have BSL HOME.

Shipping

- What is the turnaround time for acquiring BSL HOME systems?**
 - 4-6 weeks. Orders for fall must be placed by the end of June-early July. However, if you are looking for a solution for the summer, we may be able to accommodate you. Please reach out to your regional salesperson for further information.
- How long does it take for BIOPAC to test, sanitize and ship BSL HOME before the students receive it?**
 - 1 week.
- Are there limits on the number available to each institution?**
 - BSL HOME rental contracts require a minimum of 10 units, but there is no maximum limit.
- Can BIOPAC meet order demands by the start of the semester in September? Are these already in production?**
 - Yes.
- Can BSL HOME be shipped internationally?**
 - Customers who reside outside of the United States may purchase BSL HOME units. BSL HOME rental contracts are only offered in the United States.

Lessons and Hardware

- What lessons are included with BSL HOME?**

L01	Electromyography (EMG) I
L02	Electromyography (EMG) 2
L03	Electroencephalography (EEG) I
L04	Electroencephalography (EEG) 2
L05	Electrocardiography (ECG) 1
L08	Respiratory Cycle 1
L10	Electrooculogram (EOG) 1
L14	Biofeedback
L15	Aerobic Exercise Physiology
- How many channels does BSL HOME use? Is a 2 channel system available?**
 - BSL HOME is a single (1) channel device. The 2-channel system available is the MP46: https://www.biopac.com/product/biopac-student-lab-2-channel-intro-systems/?attribute_pa_size=bsl-mp45-intro-system
- Can BSL HOME record more than one signal simultaneously? For example, breathing rate and ECG at the same time?**
 - No, it is a single channel system, but the MP46 dual channel is available. See the answer to question 2 for further information.
- Are the lessons listed the only lessons available? What about electrodes and other supplies?**

- a. Yes, and the package includes 50 EL503 disposable electrodes.
- 5. Can you record respiration with BSL HOME?**
 - a. Yes, we have a respiration lesson with the BSL HOME. The students record EMG from the intercostal muscles and the software filters and displays the resulting waveform, which tracks the pattern of breathing.
- 6. How is respiration monitored?**
 - a. Respiration is recorded using electrodes placed over the intercostal muscles.
- 7. Can pulse be recorded with BSL HOME?**
 - a. Pulse is not available with BSL HOME.
- 8. Are there pre-lab learning activities for BSL HOME?**
 - a. Yes, each lesson includes an introduction with content on what will be covered in the lab. Students can also watch tutorial videos and analyze sample data before the lab.
- 9. How would you complete the EMG lesson with grip strength with BSL HOME?**
 - a. With BSL HOME students use weights instead of the hand dynamometer to induce muscle fatigue. They can use a range of objects that have a known weight and increase in mass...it doesn't have to be dumbbells.
- 10. Can you speak to how appropriate this might be for an animal physiology course?**
 - a. BSL HOME is intended for human use. If you need to teach your students about the principles of physiology, in a hands-on nature, this is a solution, however none of the BSL animal lessons are compatible with BSL HOME.
- 11. If I record data and share the data with students how do I get students just the software?**
 - a. Students can download free software (RSD) from our website: <https://www.biopac.com/support/bsl-analysis-student-rsd-download/>
- 12. How do you complete the volumes and capacities lab?**
 - a. The volumes and capacities lab is not included with BSL HOME. However, we encourage users to be creative and to create their own lessons. Contact your salesperson for lesson ideas.
- 13. What if we only need half of the included lessons? Is there any step-down pricing for partial use?**
 - a. All 8 lessons are included with every BSL HOME system. Students/instructors are not required to run all 8.
- 14. Must the BSL Home be connected to a laptop to record data or can it record and save while disconnected and then analyze/transfer once reconnected to a laptop?**
 - a. The BSL HOME must be connected to the computer to record data. However, the system is lightweight and comes with a 2.4-meter cable to provide the student with flexibility when recording the data.
- 15. I teach a neuro course and am only interested in recording EEG for that particular course. Is that an option?**
 - a. Yes, there are 2 EEG lessons included with BSL HOME.
- 16. Do instructors determine the time limit to complete lessons?**
 - a. Yes, that is up to the instructor's discretion.
- 17. What version of BSL are you using with BSL HOME?**
 - a. BSL HOME software is very similar to BSL 4.
- 18. How many muscles can you record simultaneously with BSL HOME? What is the maximum number of electrodes that you can use with BSL HOME?**
 - a. BSL HOME can record 1 channel of data using three electrodes (VIN+, VIN-, GND).

- 19. I am worried my institution's teaching budget will not be able to cover the BSL HOME. Is it possible to see whether BIOPAC might consider generating "random" simulation recordings that could be used and assigned to students to have them score and practice working with recordings?**
- The BSL software comes with data files for both male and female subjects for each of the core lessons. This allows the students to select a data file and perform the analysis just as if they had recorded the data from their own body. The recordings were created to assist students that missed a lab period. However, this has turned into a very useful feature during the pandemic.
- 20. Is anyone using this package for graduate level Exercise Physiology Instrumentation courses?**
- Yes, BSL systems are used in many Ex Phys courses and at the graduate level.
- 21. Will the BSL take home unit has the same capabilities as the one being used on-campus like the MP 36?**
- The system is very similar, with the exception of the number of channels of data that can be recorded by the student. The BSL HOME hardware will allow the student to record a single channel of data for ECG, EEG, EMG, EOG, Respiration signals. The data quality is high and comparable to the equipment you are already familiar with.
- 22. How does data from handheld unit compare to regular BSL data?**
- The data quality is very good and comparable to our other teaching systems.
- 23. Is the BSL Home unit the same as the MP40 unit? What is the difference between MP40 and MP41?**
- The MP41 is different to the MP40. The MP41 communicates with the computer, via USB and includes BSL 4 software for BSL HOME. The BSL HOME curriculum is intended for undergraduate and graduate course work, not K-12.
- 24. How can we get access to the repository of data?**
- In RSD, there are sample data files for male and female subjects for each lesson. RSD can be installed from our website: <https://www.biopac.com/support/bsl-analysis-student-rsd-download/>
- 25. Can we get a video recording that we can share with students who have never used BSL, to teach them how to use the software to analyze recorded data?**
- Yes, we have several video tutorials for BSL available on our website: https://www.biopac.com/video/?video_category=biopac-student-lab&v=bsl-student-download Videos are also included with the lessons to help the students perform the tasks and complete the lesson.
- 26. On a scale of 1-5 (5 = multiple steps, not very intuitive) how easy/intuitive is the creation of personalized lab instructions?**
- This can be handled very easily because each lesson has an active learning segment, which provides the student with the ability to record the data the way you or they would like. There is not much you need to do within the software, you can include your own personal PDF and then they will have everything they need to run YOUR lab.
- 27. Is it possible to write tailored labs? Does it require in-depth knowledge of code or are there existing modules you could adapt?**
- Yes, see answer above.
- 28. I'm very interested in simulations for clinical physiology - does the system contain any?**
- BSL HOME has sample data files for male and female subjects for each lesson that can be replayed and analyzed.

Compatibility

1. **Our lab has the BIOPAC MP150 system. Will this BSL package also be compatible with what we have in our lab?**
 - a. BSL HOME uses Biopac Student Lab (BSL) software instead of *AcqKnowledge* which comes standard with our research systems (MP100/36R/150/160 and Loggers). BSL files can be read in *AcqKnowledge* and vis a versa.
2. **Will BSL HOME work with Google Chromebook?**
 - a. No, BSL HOME is not compatible with Chromebooks. It operates on Windows and Macintosh operating systems. See answer 26 above for further information.
3. **Is it possible to save data as a MATLAB file with BSL HOME?**
 - a. Yes.
4. **Is BSL HOME compatible with tablets?**
 - a. It can be used on tablets with full operating systems, such as the Microsoft Surface Pro with Windows 10, but not iOS.
5. **Will BIOPAC incorporate Canvas as an external tool sometime in the near future?**
 - a. Stay in the loop for more information on future products and features by signing up for our BIOPAC newsletter. Sign Up Here: <https://www.biopac.com/stay-connected/>
6. **Is there any integration with OER resources such as OpenStax?**
 - a. Stay in the loop for more information on future products and features by signing up for our BIOPAC newsletter. Sign Up Here: <https://www.biopac.com/stay-connected/>

Demonstration Questions

1. **How was the subject able to know what her strongest force was?**
 - a. The onscreen instructions tell the student to squeeze an object as hard as they can during the calibration period. This sets the display settings based around the student's maximum clench force and then as they increase the clench force to their maximum, the data will be nicely displayed on the screen.
2. **1A. Did the subject have to consider her highest strength force during the calibration step?**
3. **Yes, during the calibration she was at rest and then gripped as hard as possible (maximal force) for 2s.**
4. **Was the sample rate set for EMG during the webinar demo?**
 - a. Biopac Student Lab sets the sampling rate for students in the tutorialized lessons so that they can focus on learning physiology. We try to minimize many of these settings to help focus the student on the primary subject rather than learning the hardware and software settings. We have found this works well and helps the student to gain confidence in the system and their ability to collect good data. The sample rate for the EMG lesson is set to 1,000 samples per second.
5. **Was the bottom trace a running RMS during the webinar demo?**
 - a. The second channel shows the integrated EMG waveform and provides the student with access to both the raw EMG and the integrated EMG signals for analyzing the data. The integrated EMG signal is described and explained in the lesson introduction.

RSD (Review Saved Data)

1. **What is the price of the RSD software?**
 - a. RSD software is free for instructors and students.
2. **Can the students download the RSD software without renting BSL HOME?**
 - a. Yes, anyone may download RSD software for free from our website: <https://www.biopac.com/support/bsl-analysis-student-rsd-download/>