

2021-2022 Biomedical Laboratory Science

Event Summary

Biomedical Laboratory Science provides members with the opportunity to gain knowledge and skills required for a medical laboratory setting. This competitive event consists of 2 rounds. Round One is a written, multiple-choice test and the top scoring competitors will advance to Round Two for the skills assessment. This event aims to inspire members to learn more about biotechnology careers

Sponsorship

This competitive event is sponsored by [Bristol Myers Squibb](#) and [Bio-Rad Laboratories, Inc.](#)

Dress Code

Competitors must be in official HOSA uniform or in proper business attire. Bonus points will be awarded for [proper dress](#).

General Rules

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| 1. Secondary and Postsecondary / Collegiate divisions are eligible to compete in this event. |
| 2. All competitors shall report to the site of the event at the time designated for competition. At ILC, competitor's photo ID must be presented prior to ALL competition rounds. |
| 3. Academic Competition Events will be hosted on
March. 19. 2022 at 여의도 전경련회관, Conference Hall 2F , AM 10:00 |

Process

4. Official References:

- Estridge and Reynolds. Basic Clinical Laboratory Techniques. Cengage Learning. Latest edition.
- Daugherty, Elynn. Biotechnology: Science for the New Millennium, Carnegie Learning. Latest edition.
(From this link you will click 'view your materials' and then 'proceed to checkout'.)
- Biotechnology Innovation Organization <http://www.bio.org/> as posted as of September 1, 2021

5. Round One:

The written test will consist of 50 multiple choice items in a maximum of **60 minutes**.

6. The test plan and resources for Biomedical Laboratory Science:

Biotechnology industry, equipment and products	10%
Raw materials of biotechnology	8%
Lab safety and infection control	10%
DNA structure and function.....	8%
Proteins and enzymes.....	10%
Genetic engineering.....	8%
Biotechnology in Health	10%
DNA synthesis, sequencing and genomics	8%
Clinical Chemistry	8%
Hematology and Hemostasis	10%

Careers in medical lab and biotechnology.....10%

7. Round Two:

Identifying Laboratory Instruments/Equipment (Including name of instrument/equipment and purpose or use.) **(15 minutes)** 15 instruments or photos from the following list

24-hr Urine Specimen Container	Clinical Centrifuge	N95 Respirator	Single-Use Lancet
Acetest	Coagulation Instrument	Needleless Transfer Device	Slide Staining Rack
Agar Plate	Culture Swabs & Transport Tubes	Perianal Paddle Kit	Sterile Vacuum Tube for Urine
Agar Shield	Disposable Needle Holder with Safety Guard	pH Indicator Strips	Stool Specimen Container
Analytical Balance	Electric Incinerator	pH Meter	Tabletop Autoclave
Automatic Slide Stainer	Emergency Eye Wash Station	Pipet Aids	Test Tubes
Bacteriological Incubator	Erlenmeyer Flask	Plastic Vacuum Tubes	Top-Loading Balance
Beakers	Fume Hood	Platelet Aggregation Profiler	Tourniquet
Beral (Transfer) Pipet	Glucose Meter	Point-of-Care Coagulation Analyzer	Transmission Electronic Microscope
Binocular Bright-Field Microscope	Graduated Cylinders	Rapid-Latex Agglutination Test for D-Dimer	Urine Particle Analyzer
Blood Collection Tubes	Hemocytometer	Refractometer	Urine Reagent Strip
Blood Bank Refrigerator	Inoculating Loop	Saf-T Wing Blood Collection Set	Urine Sterile Collecting Straw
Candle Jar	Manual Differential Cell Counter	Safety Shower	Urine Strip Reader
Capillary Collection Vials	Microhematocrit Centrifuge	Safety Syringes	Urinometer
Chromatographic Immunoassay for Urine hCG	Microhematocrit Tubes with Sealant Pad	Scanning Electron Microscope	Volumetric Flask
Clean-Catch Urine Collection Kit	Micropipettes	Serological Centrifuge	

