Here are some resources to learn about the structure of hemoglobin and the molecular basis of cyanosis seen in the case:

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| --- | --- | --- | --- | --- |
| Learning about Hemoglobin | | | | |
| # | Resource Name | Authors (where available) | Link/Detail | Comment |
| 1 | Online Macromolecular Museum  https://earth.callutheran.edu/Academic_Programs/Departments/BioDev/omm/images/600x214xomm_logo1.png.pagespeed.ic.X6qQHivDa_.png | David Marcey, Stephanie Levi-Blumer, and  Cassidy R. Terrell | <https://earth.callutheran.edu/Academic_Programs/Departments/BioDev/omm/jsmolnew/hemo/hemoglobina.html> | Hemoglobin A Structure, Sickle Cell Anemia, and Carbon Monoxide Toxicity |
| 2 | PDB-101; Molecule of the Month  RCSB PDB | Shuchismita Dutta, David Goodsell | <http://pdb101.rcsb.org/motm/41> | Hemoglobin |
| 3 | Proteopedia | Eran Hodis, Michal Harel, Joel L. Sussman, Alexander Berchansky, Jaime Prilusky, Eric Martz, Karl Oberholser, Mark Hoelzer, Marc Gillespie, Ann Taylor | <https://proteopedia.org/wiki/index.php/Hemoglobin> | Hemoglobin |
| 4 | MolviZ.Org | Eric Martz | [hemoglobin.molviz.org](http://hemoglobin.molviz.org) | Hemoglobin |
| 5 | CBM MSOE  MSOE Center For BioMolecular Modeling | MSOE | [http://cbm.msoe.edu/includes/modules/jmolCRESTProteins/hemoglobin.html#](http://cbm.msoe.edu/includes/modules/jmolCRESTProteins/hemoglobin.html) | Hemoglobin |
| Learning about chemical interactions in biological macromolecules | | | | |
| # | Resource Name | Authors (where available) | Link/Detail | Comment |
| 6 | Online Macromolecular Museum  https://earth.callutheran.edu/Academic_Programs/Departments/BioDev/omm/images/600x214xomm_logo1.png.pagespeed.ic.X6qQHivDa_.png | Yasi Mojab and David Marcey | <http://earth.callutheran.edu/Academic_Programs/Departments/BioDev/omm/jsmolnew/bonding/chymo.html> | An Introduction to Chemical Bonds and Protein Structure |
| 7 | PDB-101  RCSB PDB | David Goodsell and Maria Voigt | <http://pdb101.rcsb.org/learn/videos/what-is-a-protein-video> | What is a Protein? |
| 8 | Internet Course on **The Principles of Protein Structure** | Organized by [Birkbeck College](http://www.cryst.bbk.ac.uk/default.html) | <http://www.cryst.bbk.ac.uk/PPS95/course/3_geometry/index.html> | Protein Geometry |