Quantitative Biology at Community Colleges:
Building a Community of Biology and Math Faculty to Develop and Disseminate Open Educational Resources

Jennifer Buntz[1], Joseph Esquibel[2], Kristin Jenkins[3], Vedham Karpakakunjaram[4], Jillian Miller[5], Christianne Nieuwsma[6], Heather Seitz[7] and John Starnes[8]

[1]Central New Mexico Community College, NM; [2]Lansing Community College, MI [3]BioQUEST, MD; [4]Montgomery College, MD; [5]Roane State Community College, TN; [6]Paradise Valley Community College, AZ; [7]Johnson County Community College, KS; [8]Southcentral Kentucky Community & Technical College, KY.

Why QB@CC?

Biology has become an increasingly quantitative science, and the development and reinforcement of strong quantitative skills is important for student success. Corwin et al (2019) identified key challenges in teaching quantitative skills in introductory biology, including lack of faculty pedagogical content knowledge and lack of well aligned educational resources. QB@CC is designed to address these challenges and improve student quantitative biology skills.

What is QB@CC?

Quantitative Biology at Community Colleges (QB@CC) brings together community college faculty teaching biology and mathematics to integrate quantitative concepts and skills in life science courses.

Project Goals:

- Build a grassroots network of CC faculty.
- Generate Open Educational Resources (OERs) to teach quantitative skills in community college biology courses.
- Provide professional development (PD) to improve quantitative biology instruction.
- Disseminate these materials and practices widely to CC and four year faculty.

QB@CC: Current and Future Activities

The network launched in early 2020 and since then Incubator groups have developed and published five new OERs for teaching quantitative biology.

Join the group to be notified of upcoming events in Spring 2021 including new Incubators for developing modules, and a Faculty Mentoring Network to support implementing new modules in your classroom.

For more information, email Kristin Jenkins or Vedham Karpakakunjaram

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QB@CC Resources for you

Examples of quantitative biology resources available at QB@CC:

- The perfect brew: an activity demonstrating cell counting and hemocytometer use.
- Using linear regression to explore environmental factors affecting vector-borne diseases.
- Sizes, scales and specialization: an activity highlighting the cell types.
- Why does the blood flow change? Investigating the math f blood flow dynamics.
- Why are cells small? cell surface to volume ratio.

Join QB@CC!

Two year college biology and mathematics faculty are invited to join the QB@CC project. Bring your colleagues as a team!

Visit the website where you will find:

- Resources for teaching quantitative biology skills
- Learn about upcoming events in the community and new OERs

QB@CC invites you to:

- Collaborate with a community of peers
- Participate in professional development opportunities
- Receive recognition for authorship of OERs

Interested in this project? Please join: https://qubeshub.org/community/groups/qbcc to receive updates on upcoming events, new resources to participate in community discussions and to share resources with colleagues.

References

Corwin LA, Kiser S, LoRe SM, Miller JM, Aikens ML, 2019. Community College Instructors' Perceptions of Constraints and Affordances Related to Teaching Quantitative Biology Skills and Concepts. CBE—Life Sciences Education, 18 ar64: 1-13. DOI: 10.1187/cbe.19-01-0003