

Systems Medicine Education

How can we integrate science and technology to optimize current health and future wellness for individuals and communities?



THE NEED

To democratize the systems medicine approach, we need to:

- Empower individuals with the skills and knowledge necessary to participate in managing their own health, and to advocate for the well-being of their communities
- Prepare a new generation of collaborative and interdisciplinary STEM and healthcare professionals for the novel demands of the systems medicine framework

MEETING THE NEED

We are developing a Systems Medicine Education curriculum for high school students to:

- Learn the principles and practices of systems medicine
- Engage in cutting edge science
- Build and deepen their interdisciplinary skills
- Explore STEM and healthcare careers focused on biology, engineering, computer science, environmental sustainability, biomedicine, big data, and technology

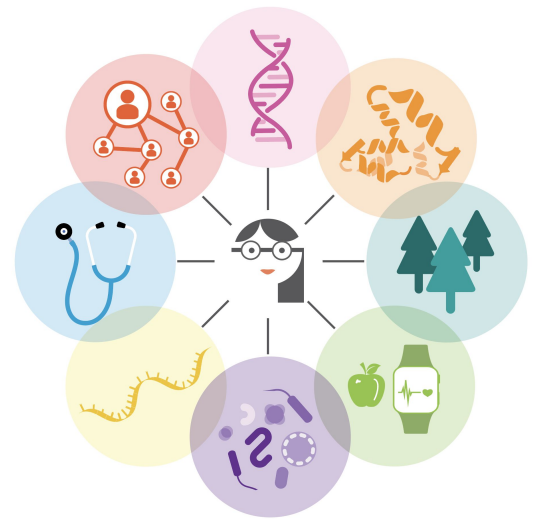
OUR APPROACH

Students will be introduced to systems medicine through:

- Case studies focused on various factors impacting health (lifestyle and behavior, the environment, genetics, the microbiome, social networks, and access to healthcare) and their relevant disease outcomes (cancer, diabetes, stress)
- Role-playing STEM & healthcare professionals to experience the multidisciplinary approach of systems medicine
- Exploration of analytic tools and biological data sets to create predictive and actionable models for wellness and disease
- Investigation of a local community health issue

WHAT IS SYSTEMS MEDICINE?

Systems medicine uses genetics, a breadth of personalized data, and tailored health coaching to proactively optimize wellness and minimize disease.



BUILDING THE COURSE

Completed

- ✓ Develop course framework (with OSPI)
- ✓ Define scenario
- ✓ Identify existing resources

In Progress

- Develop curriculum and web resources
- Teacher training and optimization

Upcoming

- Summer Course 2019: "STEAM Towards a Healthier World"
- Broad dissemination of completed curriculum (2022)

Initial funding provided by Douglas Howe and other major donors.

Please see the Systems Medicine Education page for more

information: <https://isbscience.org/systems-medicine-education/>