

# Modules

Objective – develop lecture, homework, or lab activities and projects that incorporate museum specimens and/or specimen data into undergraduate courses.



# Module Development

Modules have been developed in AIM-UP! seminars and as directed studies.

Fall 2010 – Integrative Inventories

Spring 2012 – CO-EVOLUTION: Art + Biology in the Museum

Spring 2013 – Evolutionary Dynamics of Genomes

Spring 2014- Climate Change & Museums

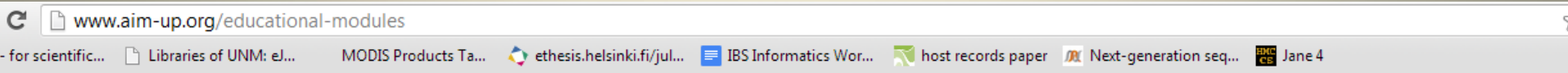


# Modules

- Identify audience
- Key concepts
- Skills
- Evaluation

# Modules

Available for download on the website.



## AIM-UP

Search this site

### AIM-UP

Annual Reports

CO-EVOLUTION: Art + Biology  
in the Museum

Contact

Evolutionary Dynamics of  
Genomes

Integrative Inventories

Meetings

Museums & Museum Networks

Participants

Presentations & Publications

### Educational Modules & Tutorials

Coal Balls

GIS and Bats

Island Biogeography

Plant Range and Distribution in  
Alaska

Stomatal Density & Climate  
Change

### Museum & Education Events

### Resources

Databases

Educational Resources

National Initiatives

On-line Tools

## Educational Modules & Tutorials

On this page you will find links to AIM-UP! educational modules and tutorials to help use museum databases and tools. The modules are intended to introduce students to the vast resources (specimens) available in natural history museums worldwide. In the past, these specimens were unavailable to educators but now -- with digitized information available over the web -- teachers and students can begin to explore this previously hidden library of biodiversity.



### Target audiences and IT needs

AIM-UP! modules have been developed for college-level courses, but may be appropriate for advanced high school courses. These modules require accessing an online museum database, including specimen images and distribution maps.

### Instructions for using the modules

Each module includes step-by-step instructions for completing an activity. Clicking on a link for a module will take you to a new page that has more information about the module as well specific instructions for implementing the module and suggested background reading.

We encourage you to use the modules in your classroom. In return, we ask that you provide us with feedback to help us improve these lessons. After completing a module, please return the associated electronic feedback form (email to: [aim-up@aim-up.org](mailto:aim-up@aim-up.org)). Your feedback is essential to the success of the AIM-UP! network.

### AIM-UP! Educational Modules

[Coal Balls](#)

[Island Biogeography](#)

# Modules

Dispersion Modules are on the CO-EVOLUTION website

unm-coev.blogspot.com

scientific... Libraries of UNM: eJ... MODIS Products Ta... ethesis.helsinki.fi/jul... IBS Informatics Wor... host records paper Next-generation seq... June 4

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# CO-EVOLUTION.

## ART + BIOLOGY IN THE MUSEUM

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UNM Biology 402/502 // UNM Art Studio 389/429/529 // UHON 402  
Joseph Cook // Szu-Han Ho

Space for posting thoughts, ideas, references, resources, and works. The theme of our seminar and workshop series is "Morphology and Geographic Variation." With the natural history collection as our starting point, we'll hear from scientists, artists, designers, programmers, musicians, and more on place-based study. Part of [AIM-UP](#), an NSF Research Coordination Network.

**TUESDAY, MAY 15, 2012**

[Sketches from Wkshp #3: Morphology and Evolution with Brian Conley](#)

**2012 VISITING ARTISTS**

[Cataloguing Wonder: Brandon Ballengée workshop\\_FEB 24-25, 2012 public lecture\\_ Friday, FEB 24 5pm UNM Science Math Learning Center \(SMLC\) rm 102](#)

# Educational Modules

## Island Biogeography: Species Richness Across a Northern Archipelago



### Key Concepts and Skills: Evolution & Ecology

- Body size on islands
- Competitive exclusion/release
- Isolation and Divergence
- Island biogeography

Conservation biology  
Scientific process & hypothesis testing  
Statistical methods  
Management & analyses of large-scale databases

# Collections-based Projects

Fall 2012 UNM Mammalogy class

- open ended assignment
- use museum data to address a question about mammals
- write a paper and do a presentation

Feedback

- students did not like the open-ended nature in the beginning
- in the end most students liked the project and were proud of their product.

# Future

## Implementation

- Need instructors to use and evaluate current modules
- Input on design from professors currently teaching

## More modules

- targeted module development
- modules that stand alone or used in a series
- Broaden the scope---new concepts, skills