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Faculty Research Network
Summer 2005 – Fall 2007

MOLECULES OF LIFE

Chicago State University

Teacher training school in a leaky railroad freight car in Blue Island (1867) with 62 students

In 1913, it became Chicago Normal College, and still later Chicago Teachers College

The school was renamed Chicago State University in 1971



7,200 students enrolled today

Chicago State University

African American (92%) Hispanic (6%)

Other Minority Groups (1%) Caucasian (1%)

Average Age is 28 years (18 to 55+)

Mainly Commuter Students (one 800-bed dorm)

ACT entrance score: 18

Average time to graduation: 6 years

Molecules of Life

Summer 2005	Met the members of MOL
Spring 2006	Taught MOL – Bio 108
Summer 2006	MOL at NYU Report, feedback and revised materials
Fall 2006	Taught MOL – Bio 107 Taught MOL – Bio 108
Spring 2007	Taught MOL – Bio 107
Summer 2007	MOL at NYU Report, feedback and “finalized” materials

Molecules of Life - Assessments

Student Survey	Week 2	Classes not determined the first week of class
TOLT	Week 4	Part of the molecular section of the course as students “learn” to think logically
Purdue ROT (pre-test)	Week 11	Administered at the end of molecular section
Purdue ROT (post-test)	Week 13	Administered immediately after the viox module
Enzyme module pre-test / post-test		Not administered; department has a similar assessment tool

Module

Protein folding

Students

Total number of students enrolled – 26

Finished semester – 22 (85%)

Completed information – 18 (82%)

Students

14 females 11 males

21 black 1 Hispanic 1 white

3 unemployed

10 first/second year

13 >third year

Schedule

Week	Topic
1	The study of Life
2	The chemical basis of life SURVEY
3	The molecules of cells
4	Cell Structure TOLT; 40 min
5-6	Cell Function
	Exam Chapters 1 – 4

Schedule

Week	Topic
7	Respiration
8	Photosynthesis
9	Cellular Reproduction
10-11	Patterns of Inheritance Exam Chapters 5 – 8 ROT; PRE TEST; 15 min
12	Molecular biology of gene expression/DNA technology

Schedule

Week	Topic
13	Statistics and Vioxx laboratory Enzymes and drug design
14	ROT; POST TEST (15 min) Classification & evolution of biological diversity
	Exam Chapters 9 - 12
15	Evolution of Plants/Form and Development
16	Plant Nutrition and Control Systems

Sample Results

	TOLT	ROT	ROT2	
	16	20	20	
2	11	2	10	B
4	5	9	11	C
7	8	5	7	A
12	12	15	15	C
14	12	6	6	A
21	10	12	11	F
23	16	13	14	A

Summary

There was no direct correlation between the students' TOLT scores and final grade

From the first application of the module, students improved on their post-ROT test score compare to their pre-ROT test score

The students loved the module and would prefer to have the whole course in this format

Recommend that the whole course be taught at CSU and that specific instructors are designated to teach it