Center for Talent DEVELOPMENT®
School of Education & Social Policy

NORTHWESTERN UNIVERSITY

Course Syllabus

SUMMER PROGRAM 2011

617 Dartmouth Place · Evanston, IL 60208 · 847/491-8257
Summer Office: June 13 – August 11, 2011 · 847/467-2990

Apogee Program
Session 1
Course Title: The Growth of Major Cities

Course Description
A city's expansive skyline draws eyes upwards and jaws downwards — it's impressive and continually changing. Through readings and site visits to great Chicago architectural landmarks, students study the roles that math, history, science and the arts played in the creation of modern cities. Drawing from their experiences in the course, students discuss the relationship between space and architectural concerns including aesthetics, building materials, budget and function. Students are challenged to use these concepts as well as cultural, economic, organizational and environmental concerns as they develop their own drawings and structures and "build" cities of the present and future.

Essential Questions
- What are qualities that make a city both function well and make people want to live and work there?
- What roles have history and technology played in the development of modern cities?
- What challenges are involved in creating and building the various aspects that make up a city?

Outcomes
Upon successful completion of this course, students will:
- Have a basic understanding of architectural design and construction themes and elements.
- Understand how mathematics and science are used in the design and building professions.
- Know how technology and human development have shaped cities.
- Work cooperatively with others in order to analyze new ideas and synthesize them into their own work.
- Apply these new understandings to design and present designs for new cities as their final project.

Instructional Strategies
A small class size will assist in addressing students' needs. Carefully planned lessons, which permit interdisciplinary instruction, will result in sustained enthusiasm from the students. Another benefit is that instruction can be differentiated to individual needs.
Cooperative learning will be important in meeting the needs of individual students. Working in small teams will allow students to gain from each other's efforts. Each team will consist of students of different levels of ability. They will use a variety of learning activities to improve their understanding of helping teammates learn, thus creating an atmosphere of achievement.
Visual Thinking Strategies is a teaching method that improves critical thinking, problem solving and language skills through discussions of visual images. This method will be used to develop individual student's speech, writing and listening abilities. Visual Thinking Strategies will also encourage participation and build self-confidence.

Resources and Materials
- **Books**

a. Levy, Matthys and Panchyk, Richard. *Engineering the City*, Chicago: Review Press, 2000 (ISBN: 1-55652-419-6)
b. Masengarb, Jennifer and Linsner, Jean. *Schoolyards to Skylines: Teaching with Chicago's Amazing Architecture*, 2002 (ISBN: 0-9620562-4-3)
c. Salvadori, Mario. *The Art of Construction*, Chicago: Chicago Review Press, 1990 (ISBN: 1-55652-080-8)
d. Tuller, Dave and Rios, Michael. *Mensa Challenge Your Brain Math & Logic Puzzles*, 2005 (ISBN: 1402714491)
e. Calvin, Italo. *Invisible Cities*, 1978 (ISBN 978-0156453806)

- **Web sites**
  a. www.archikidecture.org (Established in 1996 to encourage visual literacy and explain math, science and visual arts concepts through the medium of architecture.)
- **Other Media**
  a. Chicago By Boat (Video) 2005
  b. Discovery Channel School: Understanding Cities (DVD) 1996 (ISBN: 978-1-4213-9907-2)
  c. The City (DVD) 1999 (ISBN: 978-1-4213-0616-2)
- **Materials**
  a. Calculator, architectural scale, HB drafting pencils, eraser, black fine-tip drawing pen, journal/sketchbook

Student Assessment

Although APOGEE students are not given grades, they are given final evaluations. Evaluations will be based on the following:

1. Attendance and arrival to class on time with all required materials each day.
2. An interest survey, to be completed on the first day of the course.
3. Participation in group presentations.
4. Use of architectural vocabulary, math concepts and the history of architecture.
5. Participation in discussions related to the readings, activities and field trips.
6. Portfolio and journal that will contain the results of the activities.
7. Completion of the final project.

Schedule

Date	Topic(s)	In-class Activities	Assignments/Assessments
Week 1 June 27	Introductions	-Personal introductions - Discuss class goals and rules. - Interest Surveys -What is Architecture? -Brainstorming exercise. -Drawing exercises.	
June 28	Intro to Architectural Concepts	Warm-up puzzler Lecture on design issues Walking /sketching tour of immediate neighborhood. Write and sketch in journals Reading assignment.	
June 29	Intro to Structural Concepts	Warm-up puzzler Discuss reading assignment Watch video 'Building the Great Cathedrals' Lecture on structural issues Write and sketch in journals Reading Assignment	

Date	Topic(s)	In-class Activities	Assignments/Assessments
June 30	Structural Applications	Warm-up puzzler Discuss reading assignment Lecture on bridge design Introduction to model making Design and build balsa wood bridges Test bridges Reading Assignment on Chicago	
July 1	Chicago Architecture	Warm-up puzzler Watch Chicago by Boat video Lecture on Chicago's architecture Assignment of buildings for report Library research Drawing and sketching in journals	
Week 2 July 4	Urban Design	Warm-up puzzler Presentation of building reports Lecture on infrastructure Watch video on The City Reading assignment	
July 5	Urban Design	Warm-up puzzler Presentation of Cities Watch video on Daniel Burnham Discussion of city design concepts Assignment of cities for reports Drawing exercise	
July 6	Field trip	Field trip to Chicago Loop Visit to architect's and engineer's offices Walking and sketching tour Reading assignment	
July 7	City Reports	Warm-up puzzler Library work on city reports Lecture on city design Discussion/ brainstorming Drawing exercise	
July 10	Report Presentation	Warm-up puzzler Presentation of city reports Introduction to final project Journal entries Reading assignment	
Week 3 July 11	Final Project	Warm-up puzzler Discussion of reading assignment Video on Understanding Cities Individual desk critiques Drawing exercise	
July 12	Final Project	Warm-up puzzler Guest lecturer/ critiques Work on projects	

Date	Topic(s)	In-class Activities	Assignments/Assessments
July 13	Final Project	Warm-up puzzler In-class reading and discussion Work on projects Drawing and writing in journals Reading assignments from 'Invisible Cities'	
July 14	Final Studio	Warm-up puzzler Oral reports on 'Invisible Cities' Work on projects Write description of project	
July 15	Final Presentation	Final Presentations Celebrations Expo	

CTD Statement on Third-Party Web Sites

Instructors are required to thoroughly review any third-party web sites they intend to use in their courses for inappropriate content. However, because web content continuously changes, CTD disclaims any responsibility for any of the content contained on third-party web sites used in course materials. If you become aware of anything that may be inappropriate, please notify CTD staff immediately.