Affordable Housing Design Studio

During the semester-long design studio *ARCH 5-600: Community Design Studio: Sustainable Housing for Parkview Gardens* taught by Don Koster, Graduate architecture students developed progressive, energy-efficient, ecologically-sound, affordable and market rate housing models for infill and new development opportunities in the Parkview Gardens neighborhood. Students worked closely throughout the semester with project partners to establish design parameters and develop, evaluate and present designs. Housing designs were publically presented at the end of semester and are currently displayed in the project gallery on North Skinker Boulevard.

Students created models and drawings, both physical and digital, sketches, and competition quality presentations. Students were evaluated based on, but not limited to, the strength of proposal, concept development, dedication to the project, the ability to work independently and in collaboration with others, and an overall contribution to the studio at large.

Each prototype was developed with a particular site in mind and conformed to current zoning codes unless a carefully articulated recommendation for alterations to the code was made. Special considerations were given to overall cost of construction, materiality, and sustainable design.

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Student work: pages 78 - 105

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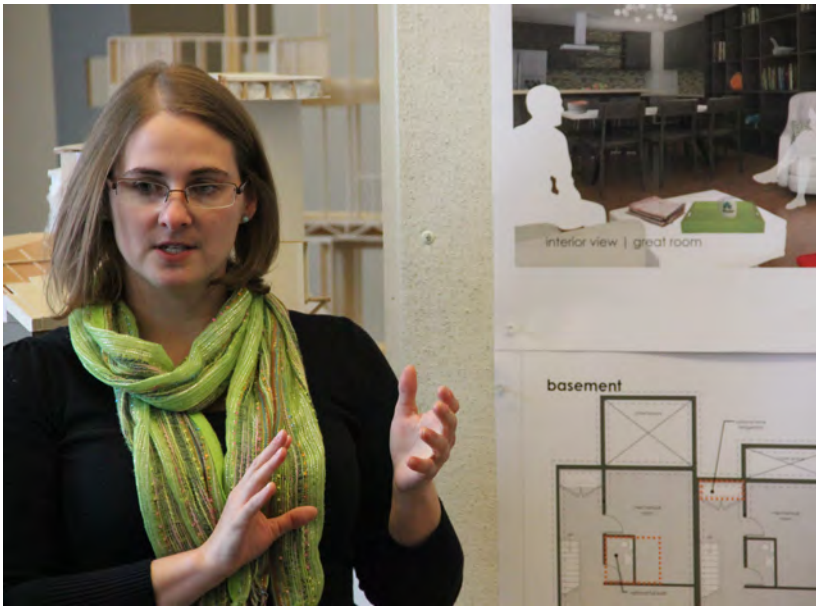
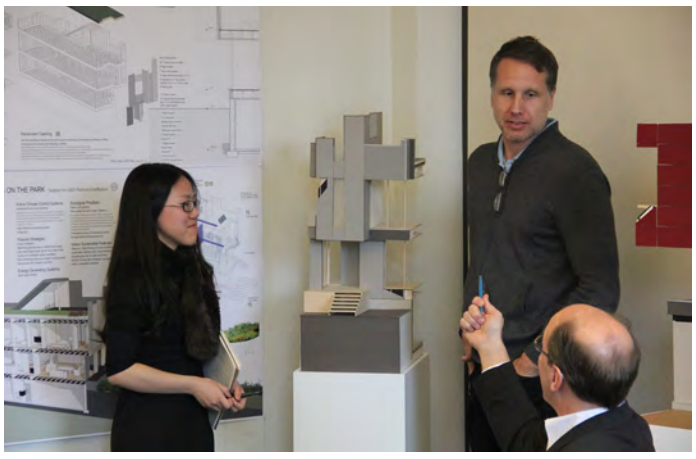
Affordable Housing Design Studio





Syllabus

ARCHITECTURE 5|600 **community design studio**

Washington University in St. Louis | Sam Fox School of Design & Visual Arts | Graduate School of Architecture & Urban Design

Donald N. Koster III, AIA LEED AP | Senior Lecturer | Fall 2011

Course Syllabus

Community Design Studio: Sustainable Housing for Parkview Gardens

BACKGROUND

Citing a lack of neighborhood connectivity, a deficit of affordable housing and a need for improved recreation and open spaces, The City of University City joined with Washington University in St. Louis and the Parkview Gardens Association to initiate a long range partnership to facilitate the redevelopment and revitalization of the Parkview Gardens neighborhood. In the fall of 2010, a $315,687 combination U.S. Department of Transportation (DOT) Tiger II & U.S. Department of Housing and Urban Development (HUD) Sustainable Community Challenge Grant was awarded to fund a neighborhood redevelopment and sustainability plan. The grant's area of focus is bounded by Delmar Boulevard on the south, the MetroLink line at the east, Olive Boulevard to the north and Kingsland Avenue to the west.

To facilitate the planning process, The Parkview Planning Partners (PPP) was formed and includes The City of University City, Washington University in St. Louis, Parkview Gardens Association, Regional Housing & Community Development Alliance (RHCDA), Great Rivers Greenway (GRG), Trailnet, The St. Louis Regional Arts Commission (RAC) and Arcturis. Together, these partners are working to address neighborhood transportation, housing, and open space needs.
The Parkview Gardens plan will include choosing locations for infill development along with architectural plans for "green" affordable homes that will allow University City to make wise investments to promote additional equitable, affordable housing. The plan will increase connectivity to public transportation options, identify financial tools to reduce housing costs (such as weatherization funding and location-efficient mortgages), and increase the number of energy-efficient housing units with low-cost utilities employing LEED and Energy Star.

Students in the Parkview Gardens Sustainable Housing Design Studio will be responsible for the development of progressive, energy-efficient, ecologically-sound, affordable and market rate housing models for infill and new development opportunities in the Parkview neighborhood. Students will be working closely throughout the semester with project partners to establish design parameters and develop, evaluate and present designs. It is anticipated that housing designs will be publically presented and professionally vetted for viability. It is also expected that designs will be developed to the point that fixed cost estimates can be developed and financing options can be determined.

Approved designs will be submitted as part of the final sustainability plan for City Council approval and future funding applications. It is a goal that the designs developed in this studio will be implemented in the future once financing has been secured.

METHODOLOGY

The studio will place a strong emphasis on the development of professional architectural skills including model and drawing craft, both physical and digital, sketching, and competition quality presentation. A premium will be placed on highly developed work product throughout the semester. Students will be evaluated based on, but not limited to, the strength of proposal, concept development, dedication to the project, the ability to work independently and in collaboration with others, and an overall contribution to the studio at large.

This studio will be a comprehensive design studio in which all students will be expected to demonstrate a command of building systems, material assemblies, structural applications, enclosure systems, life safety, and environmental systems. Members of the studio will participate in a LEED for Homes design charrette and are expected to demonstrate the achievement of LEED Platinum for all designs. Students will participate in a mandatory Habitat for Humanity St. Louis build day to receive fundamental exposure to building methodologies and make a positive contribution to the local built environment. All will be expected to conduct themselves in a professional and courteous manner.

This studio pledges to engage the environment in a way that dramatically reduces or eliminates the need for fossil fuel as stated by the 2010 Imperative adopted by the Sam Fox School.

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REQUIREMENTS & EVALUATION

Students are expected to be present for all studio meetings. It is the responsibility of the student to contact faculty in advance of an absence. Two unexcused absences will result in the dropping of a letter grade. Further unexcused absence will result in the failure of the studio.

It is expected that students will make every effort possible to attend public meetings and community presentations outside typical studio hours. Letters will be written to course faculty on behalf of each student to request that absences be excused for class field trips when necessary.

Attendance at all Sam Fox School Lectures is strongly encouraged.

GRADING

A--Superior: performance is consistently outstanding, showing excellence in craft and problem-solving; actively/constructively pursues research and work both inside and outside class. Attendance and all levels of participation are excellent.

B--Above Average: performance is consistently good, showing above average progress in craft/skill-level and problem-solving; actively pursues research and work both inside and outside class. Attendance and all levels of participation are above average.

C--Average: performance is average and all requirements are met, average level of progress and improvement demonstrated; meets requirements and shows an interest in course research. Attendance and all levels of performance are adequate.

D—Below Average: performance is inconsistent, requirements partially fulfilled, insufficient output and effort and minimal improvement in work is demonstrated; does not adequately solve problems for assignment; exhibits nominal participation during critiques and in research. Attendance and class involvement are inadequate.

CALENDAR* subject to change

F Sept 2	First Class + All School Meeting 4 PM
M Sept 5	Labor Day – No Class
F Sept 23	Habitat Build Day (7:30 AM – 3:30 PM)
F Oct 14	Fall break – No Class
M Oct 31	Public Workshop # 3 (tentative date)
W Nov 23	No Class Thanksgiving Break
F Nov 25	No Class Thanksgiving Break
F Dec 9	Last Class
M Dec 12 -15	Final Review

RESOURCES

LEED for Homes v2008 Reference Guide (required text)

UACDC. LID Low Impact Development: A Design Manual for Urban Areas. Fayetteville: Fay Jones School of Architecture University of Arkansas Press, 2010

Friederike Schneider. Floor Plan Manual Housing Basel: Birkhauser, 2004

Friedman, Avi. Sustainable Residential Development: Planning and Design for Green Neighborhoods. New York: McGraw-Hill Companies, 2007.

Schittich, Christian (Ed.) In Detail High-Density Housing. Boston: Birkhauser, 2004
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WEBSITES:
www.enengystar.gov
www.grgstl.org
www.malmo.se
www.parkviewgardens.org
www.parkviewgardensvision.org
www.ucitymo.org
www.usgbc.org

ACADEMIC INTEGRITY

Effective learning, teaching and research all depend upon the ability of members of the academic community to trust one another and to trust the integrity of work that is submitted for academic credit or conducted in the wider arena of scholarly research. Such an atmosphere of mutual trust fosters the free exchange of ideas and enables all members of the community to achieve their highest potential. In all academic work, the ideas and contributions of others must be appropriately acknowledged, and work that is presented as original must be, in fact, original. Faculty, students, and administrative staff all share the responsibility of ensuring the honesty and fairness of the intellectual environment at Washington University. Graduate School of Architecture and Urban Design students are currently governed by the Academic Integrity policy of the Graduate School of Arts & Sciences:
http://graduateschool.wustl.edu/files/graduate/AcademicIntegrity.pdf

CONTACT

Office: Bixby Hall Room 118 | tel: 935.9297 | dkoster@wustl.edu

ARCHITECTURE 5 | 600 **community design studio**

Washington University in St. Louis | Sam Fox School of Design & Visual Arts | Graduate School of Architecture & Urban Design

Donald N. Koster III, AIA LEED AP | Senior Lecturer | Fall 2011

Program

Community Design Studio: Sustainable Housing for Parkview Gardens

Prototype

Now that you have developed an understand of the existing Parkview Gardens neighborhood context and a preliminary understanding of the LEED process, using the information gathered from the market study, the on-going HUD/DOT funded planning process and meetings with various stakeholders it is time to develop a sustainable housing prototype. Each student is responsible for the design of an individual development; this may be a series of infill proposals or a new larger aggregation of units in one of the designated areas informed by the neighborhood development plan.

Each prototype should be developed with a particular site in mind and be conforming to current zoning codes and if not the project needs to carefully articulate recommendations for alterations to the code whether through a re-writing of the code or an application for a variance. It is not enough to merely say that a variance is required to build what I want; a carefully articulated argument must be made and documented visually.

Prototypes should include strategies for various solar orientations, demonstrate how variation, if any, is achieved when units are aggregated and propose a strategy for internal variants – one bedroom, two-bedroom, three, four, etc.

Each prototype should be developed with a client profile in mind and should adhere to the basic economics established by the market analysis. For example each designer should be cognizant of land acquisition costs and development returns when estimating construction costs for design purposes. Most products can be delivered between $ 90 and $ 150 / sf. And recognition of budget constraints must be acknowledged. This said, it is our goal to promote a brighter, inspired future for Parkview Gardens and attract new residents to the neighborhood.

Deliverables:

Individual

- Key site plan showing planned neighborhood context and highlighting targeted building sites (1”=500’)
- Site Plan showing your immediate site with property lines, hardscape, a landscape strategy, parking strategy and initial site water strategies.
- Rendered plans showing room layouts with furnishing, fixtures, appliances and dimensions (1/4” = 1’ – 0”)
- Rendered street elevation showing depth and materials with elevation targets (minimum) (1/4” = 1’ – 0”)
- Exterior rendered perspective showing building in context with entourage.
- Interior rendered perspectives of unit(s) with entourage
- Section Perspective (optional)
- Data set including building size, construction type, number of bedrooms/unit, total number of units, typology, target market, etc.
- Physical model (1/4” = 1’ – 0”)
- Physical section model (3/4” = 1’-0”)
- Explode Axonometric (Scale TBD)

All work is to be fully annotated and should speak for itself without the author needing to be there to talk about it. Annotations should include: material and construction descriptions, fabrication methods, vertical and horizontal dimensions and highlighted sustainable strategies or goals.