# SYLLABUS

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| **DATE OF LAST REVIEW:** | 03/2017 |
| **CIP CODE**: | 15.1302 |
| **SEMESTER**: | Departmental Syllabus |
| **COURSE TITLE**: | Fundamentals of Building Planning |
| **COURSE NUMBER**: | ENGR-0251 |
| **CREDIT HOURS**: | 3 |
| **INSTRUCTOR**: | Departmental Syllabus |
| **OFFICE LOCATION**: | Departmental Syllabus |
| **OFFICE HOURS**: | Departmental Syllabus |
| **TELEPHONE**: | Departmental Syllabus |
| **EMAIL:** | KCKCC-issued email accounts are the official means for electronically communicating with our students. |
| **PREREQUISITE(S):** | None |
| **REQUIRED TEXT(S):** | Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the required text for your particular class. |

**COURSE DESCRIPTION:**
This course will provide fundamental knowledge of such topics as sketching, architectural lettering styles, symbols and their interpretations. This course will also provide knowledge of basic house construction with building codes, building materials, dimensioning and section details. Students will learn how to utilize 3D BIM Architectural desktop software to create house plans, presentation drawings, and section views.

**METHOD OF INSTRUCTION:**
A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

**COURSE OUTLINE:**
I. Professional architectural careers.
   A. Drafter

- B. Designer
- C. Architect
- D. Engineer
- E. Related fields

II. Building codes
- A. National codes
- B. Codes and design

III. Room relationships, sizes and interior design.
- A. Living area
- B. Sleeping area
- C. Service area

IV. Exterior design factors
- A. Site consideration
- B. Floor plan styles
- C. Shapes of floor plans
- D. Exterior styles

V. Site orientation
- A. Terrain orientation
- B. View orientation
- C. Solar orientation
- D. Wind orientation
- E. Sound orientation

VI. Designs
- A. Solar energy designs
- B. Energy efficient design
- C. Design sequence
- D. Floor plans
- E. Floor plan dimensions
- F. Electrical plans
- G. Floor plan layout
- H. Foundation systems
- I. Elevations
- J. Elevation layout and drawing techniques
- K. Roof framing and roof plan components

VII. The User Interface
- A. Unit Conventions
- B. Navigation and Selection Methods

VIII. Creating a Building Layout
- A. Working with Walls
- B. Working with Doors and Windows
- C. 3D Model Viewing
- D. Adding Plumbing and Fixtures

IX. Setting up Project Levels, Column Grids and Structural Layouts
- A. Working with Project Templates and Levels
- B. Setting up Schedule and Sheet Views
- C. Working with Grids and Columns

D. Creating Structural Framing

X. Setting Up Floors, Roofs, and Developing the Exterior Skin
   A. Creating Floors and Roofs
   B. Creating Exterior Shells
   C. Creating Curtain Walls
   D. Working with Stacked Walls

XI. Detailing, Annotation, Schedules, and Tags
   A. Creating Details on Architectural Drawings
   B. Placing Annotation on Architectural Drawings
   C. Creating and Modifying Schedules on Architectural Drawings
   D. Creating and Placing Tags on Architectural Drawings

**EXPECTED LEARNER OUTCOMES:**

*A. Upon completion of the course, the student will be able to identify architectural careers as related to drafting.*
*B. Upon completion of the course, the student will be able to identify and interpret building codes as related to residential building planning.*
*C. Upon completion of the course, the student will be able to demonstrate knowledge of interior design factors.*
*D. Upon completion of the course, the student will be able to demonstrate knowledge of exterior design factors.*
*E. Upon completion of the course, the student will be able to demonstrate knowledge of site orientation considerations.*
*F. Upon completion of the course, the student will be able to demonstrate knowledge of architectural design considerations and residential architectural drawings.*

**COURSE COMPETENCIES:**

*Upon completion of the course, the student will be able to identify architectural careers as related to drafting.*

1. Upon completion of the course, the student will be able to identify architectural drafting careers.
2. Upon completion of the course, the student will be able to identify related architectural drafting careers.

*Upon completion of the course, the student will be able to identify building codes as related to residential building planning.*

3. Upon completion of the course, the student will be able to interpret national residential building codes.
4. Upon completion of the course, the student will be able to interpret local residential building codes.

*Upon completion of the course, the student will be able to demonstrate knowledge of interior design factors.*

5. Upon completion of the course, the student will be able to identify the three areas of a residential building.
6. Upon completion of the course, the student will be able to design a living area space in a residence.
7. Upon completion of the course, the student will be able to design a service area space in a residence.

8. Upon completion of the course, the student will be able to design a sleeping area space in a residence.
9. Upon completion of the course, the student will be able to identify and define space requirements in a residence.

*Upon completion of the course, the student will be able to demonstrate knowledge of exterior design factors.*

10. Upon completion of the course, the student will be able to identify site considerations when designing a residence.
11. Upon completion of the course, the student will be able to analyze and interpret data to apply site considerations when designing a residence.
12. Upon completion of the course, the student will be able to identify and differentiate between different floor plan styles when designing a residence.
13. Upon completion of the course, the student will be able to identify and differentiate between different floor plan shapes.
14. Upon completion of the course, the student will be able to identify and differentiate between different exterior residence styles.

*Upon completion of the course, the student will be able to demonstrate knowledge of site orientation considerations.*

12. Upon completion of the course, the student will be able to identify terrain orientation considerations.
13. Upon completion of the course, the student will be able to identify view orientation considerations.
14. Upon completion of the course, the student will be able to identify solar orientation considerations.
15. Upon completion of the course, the student will be able to identify wind orientation considerations.
16. Upon completion of the course, the student will be able to identify sound orientation considerations.

*Upon completion of the course, the student will be able to demonstrate knowledge of architectural design considerations and residential architectural drawings.*

17. Upon completion of the course, the student will be able to identify solar energy designs.
18. Upon completion of the course, the student will be able to identify energy efficient design elements.
19. Upon completion of the course, the student will be able to interpret data and create a residential floor plan.
20. Upon completion of the course, the student will be able to interpret data and create a residential electrical plan.
21. Upon completion of the course, the student will be able to interpret data and create a residential foundation plan.
22. Upon completion of the course, the student will be able to interpret data and create a residential elevation plan.
23. Upon completion of the course, the student will be able to interpret data and create a residential roof framing plan.

**ASSESSMENT OF LEARNER OUTCOMES:**

Assessment methods may include, but are not limited to, the following: Homework, Assignments, Quizzes, Class Participation, Chapter Tests, and Final Exam. The grading scale and the process for calculating the course grades are to be determined by the individual instructors. This information will be included in each instructor's syllabus.

# SYLLABUS

**SPECIAL NOTES:**
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college's policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

*Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the disabilities services office at (913) 288 -7664.*

All enrolled students at Kansas City Kansas Community College are subject to follow all rules, conditions, policies and procedures as described in both the Student Code of Conduct as well as the Student Handbook. All Students are expected to review both of these documents and to understand their responsibilities with regard to academic conduct and policies. The Student Code of Conduct and the Student Handbook can be found on the KCKCC website.