CM 3040 – Building Information Modeling 1
College of Architecture & Construction Management
Term: Fall 2015

Prerequisite: CM 2000, 3000
Class Meeting time: (Mon & Wed 8:00 PM – 9:50 PM)
Course Website: http://d2l.kennesaw.edu
Class Location: H321
Class instruction methodology: 100% in classroom; Lecture discussion and lab work sessions
Instructor: Pavan Meadati
Office Location & Hours: H336 Mon & Wed: 3:00 PM to 5:00 PM
Course Communications: Email/Phone: pmeadati@kennesaw.edu/678-915-3715
Preferred method of contact: D2L email only or during office hours

Required Text/ISBN Number: None

COURSE SYLLABUS
Construction Management Faculty are involved in the development of knowledge, understanding, and application in an environment where we monitor, manage, and facilitate the learning process. Instructor strives to provide a rich learning environment that allows for a range of individual learning styles. The following syllabus provides specific topics for the course through various forms of teaching and discovery based on a selection of reading materials and other resources.

Course Catalog Description:
A course on study of building information modeling for pre-construction applications. The course will enable the students to develop and modify building information models. It includes integration of estimates and schedules with building information models. It also prepares the students to identify conflicts caused by architectural, structural, mechanical, plumbing, and electrical systems during pre-construction stages.

Purpose of Course: Introduction to Building Information Modeling Applications.

Course Goals, Objectives & Expectations:
A course focuses on building information modeling for pre-construction applications. The course will enable the students to develop and modify building information models. It includes integration of estimates and schedules with building information models. It also prepares the students to identify conflicts caused by architectural, structural, mechanical, plumbing, and electrical systems during pre-construction stages.
1. Prepare quantity and cost estimates from BIM.
2. Identify the constructability problems using BIM.
3. Develop a four dimensional model by integrating BIM and the project schedule.

How This Course Relates to the Student Learning Outcomes in the Construction Management Program:
Prepares students to how carryout construction project management related tasks with hands-on Building Information Modeling lab exercises and lecture discussions.
Student Learning Outcomes:
1. Apply electronic-based technology to the construction to manage the construction process

COURSE POLICIES

Attendance Policy:
Students are expected to be present for every meeting of the course. It is expected that students will arrive to class on time and if expected to be absent from class, prior notification to the instructor is required (emails are accepted for this purpose). All absences will be considered unexcused absences, unless they are cleared with the instructor with a memorandum, submitted electronically (i.e., via Email), stating the date and reason for the absence.

Quiz / Exam Policy:
There are seven (7) home works and three (3) class projects to be completed individually. There will be one Quiz/Exam. Questions in the exam covers the material discussed during the entire semester. Hence every meeting class notes has to be maintained. This practice helps to find the answers to the exam questions.

Make-up Policy:
There are no make-up quizzes or lab assignments - so don’t ask.

Assignment Policy:
Homework or Class project should have a professional appearance, being neat, logically formatted, and legible. Homework or Class project will be turned in at the beginning of class on the date due. It is each student’s responsibility to deliver late submission to the instructor. Homework or Class project that is submitted after the beginning of class will receive a penalty of 10%. Homework or Class project submitted the day after the class on which that is due will receive a penalty of 25%, 2 days after 50%, 3 days after 100% off.

The instructor reserves the right to make any modifications or changes to the number and type of assignments, depending on the class progress, or on any special circumstance that may arise during the semester.

Course Technology: N/A

Evaluation & Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>Home Work</td>
<td>70%</td>
</tr>
<tr>
<td>Class Projects</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

A = 90-100  B = 80-89  C = 70-79  D = 60-69  F = Below 60

UNIVERSITY POLICIES:
Statement of Student Rights and Responsibilities
KSU Student Code of Conduct

Plagiarism and Cheating:
No student shall receive, attempt to receive, knowingly give or attempt to give unauthorized assistance in the preparation of any work required to be submitted for credit (including examinations, laboratory
reports, essays, themes, term papers, etc.). Unless specifically authorized, the presence and/or use of electronic devices during an examination, quiz, or other class assignment is considered cheating. Engaging in any behavior which a professor prohibits as academic misconduct in the syllabus or in class discussion is cheating. When direct quotations are used, they should be indicated, and when the ideas, theories, data, figures, graphs, programs, electronic based information or illustrations of someone other than the student are incorporated into a paper or used in a project, they should be duly acknowledged. No student may submit the same, or substantially the same, paper or other assignment for credit in more than one class without the prior permission of the current professor(s).

University Policy on Academic Misconduct: Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the KSU Student Academic Integrity Policy at [http://kennesaw.edu/handbooks/faculty/section2_13.php](http://kennesaw.edu/handbooks/faculty/section2_13.php)

University Policy on Accommodating Students with Disabilities:
Students requesting accommodation for disabilities must first register with the Office of Disabled Student Support Services at [http://www.kennesaw.edu/stu_dev/dsss/dsss.html](http://www.kennesaw.edu/stu_dev/dsss/dsss.html). The Office of Disabled Student Support Services will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**Netiquette: Communication Courtesy:** All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. [http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf](http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf)

**Electronic Recording & Social Media Policy**
Electronic recording performed without the consent of the people being recorded chills the free exchange of ideas. Academic freedom, free inquiry, and freedom of expression should not be limited by the fear that one’s brainstorming, polemic discourse, speculative inquiry, or any other kind of expressed curiosity made within the space of a university classroom will be made public without one’s consent. This fear is unacceptable regardless of whether one is in an online, hybrid, or face-to-face classroom setting. Accordingly, no person shall electronically record any class discussion without the written permission of the instructor. No person shall publish online or elsewhere any electronic recording of a class discussion without the written permission of the instructor and any other persons who were recorded. This policy is not intended to discourage electronic recording in the classroom or the use of social media when such actions are performed with the written consent of the instructor and any other persons who were/will be recorded. Faculty accommodate all reasonable requests to electronically record a class discussion; these requests must be documented by the DisAbled Student Support Services available at: [http://www.kennesaw.edu/stu_dev/dsss/prospect.shtml](http://www.kennesaw.edu/stu_dev/dsss/prospect.shtml)

**GETTING HELP**

For issues with technical difficulties, please contact the Student Helpdesk:
1. Fill out a service form [http://uits.kennesaw.edu/support/formselect.php?s=tech](http://uits.kennesaw.edu/support/formselect.php?s=tech)
2. Email: studenthelpdesk@kennesaw.edu
3. Call: 770-499-3555

Getting Started With Technology Services [http://uits.kennesaw.edu/](http://uits.kennesaw.edu/)

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from ITS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.
Additional Technology Resources
1. Student Service Desk and Help Center  studenthelpdesk@kennesaw.edu
2. Browser Checker  
   https://usg.desire2learn.com/d2l/tools/system_check/systemcheck.asp?ou=6606
3. USG Desire2Learn Help Center  https://d2lhelp.view.usg.edu/
4. D2L Training Options & Resources for Students  https://web.kennesaw.edu/acs/pages/desire2learn/student-resources-d2l
5. Computertrain Online Courses  http://www.kennesaw.edu/dlc/FacultyResources/  
6. ITS Documentation Center  
   http://uits.kennesaw.edu/docs/netaccess/guides/windows7_wifi_instructions.pdf
7. Check Service Outages  http://status.usg.edu/  
8. Maintenance Schedule  https://usg.desire2learn.com

Academic Resources
1. Academic Tutoring Services  http://www.kennesaw.edu/stu_dev/alp/academic.shtml
2. Disability Resources  http://www.kennesaw.edu/stu_dev/dss/dss.html
4. Library  http://www.kennesaw.edu/library/
7. Math Lab  http://mathlab.kennesaw.edu/

Student Support and Wellness Resources
1. Career Services Center  https://careerctr.kennesaw.edu/
2. Counseling and Psychological Services  http://sss.kennesaw.edu/cps/
3. Center for Health, Promotion and Wellness  http://www.kennesaw.edu/col_hhs/wellness/
4. Student Health Clinic  http://studenthealth.kennesawstateauxiliary.com/

KSU desires to resolve student grievances, complaints and concerns in an expeditious, fair and amicable manner. The Complaints and Appeals Page was developed to assist current and prospective students in submitting complaints and appeals and to direct them to the most effective venue for accurate information and resolution. The resources on the page will direct students to the specific venue to appropriately address related student complaint.  http://www.kennesaw.edu/complaints_appeals.shtml

Complaints for online students are resolved following the same general procedures for students who attend classes on campus. However, for any process that requires that a student appear in person, the university may make other arrangements. For processes that cannot be completed via telephone, e-mail, or written correspondence, the university may set up a two way Video conference site in place of a meeting on the KSU campus.
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Administrative Matters &amp; Introduction to BIM Modeling - Architectural Families</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>Modeling - Architectural Families</td>
<td>HW-1 Work Session</td>
<td>HW-1 Assigned</td>
</tr>
<tr>
<td>3</td>
<td>Modeling - Architectural Families</td>
<td>HW-1 Work Session</td>
<td>HW-1 Assigned</td>
</tr>
<tr>
<td>4</td>
<td>BIM Application – Quantity Estimation (Schedules)</td>
<td>HW-2 Work Session</td>
<td>HW-1 Due &amp; HW-2 Assigned</td>
</tr>
<tr>
<td>5</td>
<td>Modeling - Structures Families</td>
<td>HW-3 Work Session</td>
<td>HW-2 Due &amp; HW-3 Assigned</td>
</tr>
<tr>
<td>6</td>
<td>BIM Application – (Design Options)</td>
<td>HW-4 Work Session</td>
<td>HW-3 Due &amp; HW-4 Assigned</td>
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<tr>
<td>7</td>
<td>BIM Application - Class Project 1 (Phasing)</td>
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<td>HW-4 Due &amp; Class Project 1 Due</td>
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<tr>
<td>8</td>
<td>Modeling - MEP Families</td>
<td>HW-5 Work Session</td>
<td>HW-5 Assigned</td>
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<tr>
<td>9</td>
<td>BIM Application - Class Project 2 (Creation of New Families)</td>
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<td>HW-5 Due &amp; Class Project 2 Due</td>
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<td>10</td>
<td>BIM Application - Four Dimensional Modeling</td>
<td>HW-6 Work Session</td>
<td>HW-6 Assigned</td>
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<tr>
<td>11</td>
<td>BIM Application - Design &amp; Pre-Construction Coordination</td>
<td>HW-7 Work Session</td>
<td>HW-6 Due &amp; HW-7 Assigned</td>
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<td>12</td>
<td>BIM Application - Design &amp; Pre-Construction Coordination</td>
<td>HW-7 Work Session</td>
<td>HW-7 Due</td>
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<td>BIM Application - Class Project 3 (BIM Application – Object Animation)</td>
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<td>13</td>
<td>BIM Application - Class Project 3 (BIM Application – Object Animation)</td>
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<td>Class Project 3 Due</td>
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<tr>
<td>14</td>
<td>Developing 3D As-builts &amp; Documentation</td>
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<tr>
<td>15</td>
<td>Documentation &amp; Guest Lecture</td>
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### Assignment Points, percentage or measurement

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points, percentage or measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project 1: [HW: Modeling (Architectural)]: Creating and modifying model using Architectural Families</td>
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</tr>
<tr>
<td>Project 2: [HW: (Estimate Using Revit Schedule)]: Estimate quantities using Revit (Outcome-1)</td>
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<tr>
<td>Project 3: [HW: Modeling (Structural)]: Creating and modifying model using Structural Families</td>
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</tr>
<tr>
<td>Project 4: [HW: BIM Application – (Design Options)]</td>
<td>10 points</td>
</tr>
<tr>
<td>Project 5: [HW: Modeling (MEP)]: Creating and modifying model using MEP Families</td>
<td>10 points</td>
</tr>
<tr>
<td>Project 6: HW: (4D Modeling): Four dimensional modeling (Outcome-3)</td>
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</tr>
<tr>
<td>Project 7: [HW: (Constructability Analysis)]: Identifying constructability problems (Outcome-2)</td>
<td>10 points</td>
</tr>
<tr>
<td>Class Project 1 (Phasing)</td>
<td>10 points</td>
</tr>
<tr>
<td>Class Project 2 (Creation of New Families)</td>
<td>10 points</td>
</tr>
<tr>
<td>Class Project 3 (BIM Application – Object Animation)</td>
<td>10 points</td>
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</tbody>
</table>

**Note:** The outline is intended to represent the general format of class. The instructor may make changes to better suit the needs of the class.