PRAIRIE VIEW A&M UNIVERSITY

SYLLABUS

Course Title:	**Structural Systems I**				
Course Prefix:	**ARCH**	**Course No.:**	**3293**	**Section No.:**	**P01**

School of Architecture	Department: Architecture ☑ Construction Science ☐ Art ☐ Community Development ☐
Course Location:	Nathelyne Archie Kennedy Building, Room 233
Class Meeting Days & Times:	Tuesdays, Thursdays (1:00 PM - 2:20 PM)
Catalog Description:	"(3-0) Credit 3 semester hours. A study of theory of various structural concepts. Emphasis placed on statics and strength of materials."
Prerequisites:	MATH 1123
Co-requisites:	
Mode of Instruction:	☑ Face-to-face
Instructor:	Steven Wilkerson, PhD, PE CoA Adjunct Instructor
Office Location:	School of Architecture, Prairie View A&M University, Room 229B
Office Telephone:	(TBD)
Fax:	(936) 261-9826
Email Address:	smwilkerson@pvamu.edu
U.S. Postal Service Address:	Prairie View A&M University P.O. Box 519 Mail Stop 2100 Prairie View, TX 77446
Office Hours:	Tuesdays, Thursdays 2:30 PM - 4:30 PM Wednesdays 1:00 PM – 3:00 PM Students are strongly advised to make appointments with the professor ahead of time and be specific with the subject matter to be discussed. Students should also be prepared for their appointment by bringing all applicable materials and information to the professor.
Virtual Office Hours:	
Required Text:	Francis D. K. Ching: "Building Structures Illustrated" Harry Parker, James Ambrose: "Simplified Mechanics and Strength of Materials"
Optional Text:	Francis Ching & Cassandra Adams: "Building Construction Illustrated" Kenneth Lauer: "Structural Engineering for Architects" Barry Onouye, Kevin Kane: "Statics & Strength of Materials for Architecture & Building Construction"
Recommended Text/Readings:	Reading material in addition to items listed above will be suggested or provided in class, prior to class discussions. Materials in addition to items listed above may be required and will be discussed in class, prior to exams and/or individual project submissions.
Learning Resources:	**PVAMU Library**: Telephone: (936) 261-1500; web: http://www.tamu.edu/pvamu/library/ Use the Reference Desk at the library where the staff is eager to guide your research. They can orient you to hard copies and on-line resources.

	University Bookstore: Telephone: (936) 261-1990 web: https://www.bkstr.com/Home/10001-10734-1?demoKey=d
	The Writing Center Telephone: (936) 261-3700 The Writing Center's goal is to provide a friendly, stress-free environment for students from all over campus to meet with a consultant and talk about writing of all types. They provide a responsive audience and advice from experienced writers in sessions generally lasting thirty to forty-five minutes. Sessions of this length offer time to work individually with students on any aspect of the writing process: from brain storming and drafting, to revising and proofreading. They will explore ways to improve a student's overall writing skills. They do NOT proofread or edit for students, but instead teach proofreading and editing techniques. Their goal is to: make a better writer for the long term.
	Student Academic Success Center Telephone: (936) 261-1040 Student Academic Success Center identifies academic and social roadblocks that interfere with persistence and timely graduation of PVAMU students. SASC informs campus-wide policies by staying current with retention literature and best practices. Further, SASC develops programs and services that are specifically aimed at continuing the academic success of the first year. We strive to provide PVAMU students with ***"Navigation to Graduation"***.
	The Tutoring Center John B. Coleman Library in Room 209 Telephone: (936) 261-1561 Hours: Monday through Thursday 12 pm to 9 pm and Friday from 8 am to 5 pm. Email: AEtutoring@pvamu.edu Open to **all** undergraduate students enrolled for credit in targeted PVAMU courses. offers help for: ▪ Microeconomics, Macroeconomics ▪ Management Information Systems ▪ History, Government ▪ Statistics, Basics – Calculus II ▪ Psychology, Sociology ▪ English (Basics – Freshman Comp II), Speech ▪ Spanish I&II ▪ Biology (Pre-Med, Pre-Nursing) ▪ Chemistry (Bio & Nursing Majors) ▪ Physics ▪ Materials & Science

Course Goals and Overview:

	The goal of this course is to understand the theory and behavior of structural mechanics as it pertains to building design and architectural practice.

Course Outcomes/Learning Objectives

At the end of this course, the students will:

3293.1	Develop an understanding of basic structural concepts.
3293.2	Perform an analysis on structural systems.
3293.3	Demonstrate the ability to use applied mechanics for building design.
3293.4	Define the application of basic fundamental design related to structural systems.
3293.5	Identify design processes and ideas of how structural patterns inform and influence design concepts.

Course Requirements & Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course:

Projects: Notebook, Structural System Drawings, Structural System Presentation, Structural System Model
Tests: Written Examinations (3)
Professionalism: Attendance, Participation, Motivation & Interest, Personal Conduct

Final Course Grade will be based 85% on class projects/exams and 15% on professionalism (professional grade), i.e., students' motivation, overall development, class participation & other factors listed under sections pertaining to Attendance and Participation Policy, and Personal Conduct. The student is responsible for all relevant subject matter discussed in class. Students must be prepared to spend that portion of class time which is not taken by presentations, critiques, demonstrations and discussions, working on class projects. Failure to have work materials for class time is unacceptable and will result in a loss of points that make up the bi-weekly professional grade. Active participation in class discussions is taken into consideration for the professional grade. You must take part in class discussions if you are to get points awarded for this.
Student progress in meeting the objectives of the class and final project grades will be determined as indicated below:

Grading Matrix:

Instrument (Details)	**Value** (Percentage)	**Total** (Percentage)
1. Project: Course Notebook	1 Assignment at 1%	1%
2. Project: Structural System Presentation	1 Assignment at 6%	5%
3. Project: Structural System Model	1 Assignment at 7%	8%
4. Project: Structural System Drawings (10 Total)	Per Drawing at 1% each	10%
5. Assignment: Seismic and Tornado Research	1 Assignment at 1%	1%
6. Written Examinations	3 Exams at 20% each	60%
7. Professionalism	1% Per Week	15%
Total		**100%**
Grade Determination:	A = 100 % - 90.00 % B = 89.99 % - 80.00 % C = 79.99 % - 70.00 % D = 69.99 % - 60.00 % F = Below 60 %	
Required Materials:	Calculator College Ruled Filler Paper, 8 1/2" x 11" 3" Binder + Tab Dividers Graph Paper + Scale Drawing Supplies + Model-making Supplies	

Course Procedures

Taskstream	Taskstream is a tool that Prairie View A&M University uses for assessment purposes. One of your assignments may be considered an "artifact," an item of coursework that serves as evidence that course objectives are met. More information will be provided during the semester, but for general information, you can visit Taskstream via the link in eCourses.
University Attendance Policy:	Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or assignment of a grade of "F." Absences are accumulated beginning with the first day of class.

Instructor's Attendance and Participation Policy:	As a student at PVAMU, intending to enter the professional field, you are expected to attend each class. Attendance is required and will be included as a major part of the final course grade. Attendance will only be marked for students who are present for the entire length of the class duration. Class attendance is recorded on roll sheets that are circulated to record your name and signature. Since I feel that attendance is critical to the learning objectives and class discussions, I award 100 points during each class session that make up the bi-weekly professional grade, that subsequently then counts towards the final professional grade for the course. I start you with 50 points for attending each class session under the assumption that you have come to learn. However, you must do more than just show up for classes. Attentiveness is important. For example, showing up for class and then reading the newspaper will cause a deduction from your 50 points. Other things that could cause you to lose points would be sleeping in class, working on other assignments in class, being late, being rude or being disruptive. However, if you are attentive during class sessions, I will award an additional 25 points for each class. The remaining 25 points per class are earned by action on your part such as diligently recording notes pertaining to lecture slides, showing progress on your project work, finding or sharing your thoughts on the subject being discussed, or asking a thoughtful and appropriate question. If you are late to class, you are subject to losing all of the 100 points. These points will make up your bi-weekly professional grade. You are not in competition with your fellow classmates for professionalism (professional grade). Each student can receive 100 points per class session as long as they are legitimately earned. At the end of the semester, each student will earn a final professional grade, worth 15% of the final course grade based upon an overall assessment of the student's bi-weekly attendance, participation in class discussions, motivation, overall development, and personal conduct during the semester. Participation and absences are accumulated beginning with the first day of class. If you do not come to class, you may assume that you have received zero (0) points for the class period unless you have a university approved excuse in one of the following classifications: 1. Participation in an activity appearing on the University authorized activity list. 2. Death or major illness in a student's immediate family. 3. Illness of a dependent family member. 4. Participation in legal proceedings that requires a student's presence. 5. Religious holy day. 6. Confinement because of illness. 7. Required participation in military duties. If you miss class for one of these reasons, you must provide me with a memorandum plus supporting documentation to clear the absence from your record. I will only accept these documents for ONE WEEK AFTER THE ABSENCE HAS OCCURRED. There will be NO exceptions to this rule. This includes student-athletes who are to provide university forms for reporting absences to participate in approved competitions. Emails will not be accepted to clear these absences. After that, the zero (0) points (towards the bi-weekly professional grade) stands. If you have another reason other than these seven for being absent, you may submit a memorandum with supporting documentation requesting that the absence be removed from you record for ONE WEEK AFTER THE ABSENCE HAS OCCURRED. There will be NO exceptions to this rule. All requests will be reviewed and approved or disapproved based upon the justification that you provide in your memorandum. I do not approve many other reasons for being absent; however, I do understand that you might feel that there is a higher priority that requires you to miss class. I will accept your decision, but you must accept my decision to not award you points (that make up the bi-weekly professional grade) for the class or classes that are missed.

Personal Conduct:	Students and faculty are expected to conduct themselves in ways that support individual learning and the learning of others. To that end members of the classroom community will conduct themselves in a professional and ethical manner to achieve these objectives. Any conduct construed to interfere with the learning opportunities of members of the class may result in the removal of the student from the class for that day. Repeated inappropriate conduct will result in permanent removal from the class. Based upon the fact that you are preparing for professional employment, you are expected to adhere to the following specific guidelines: 1. During regular class periods all students are expected to dress appropriately in accordance with university regulations so that no disruptions in the learning experience will occur. 2. No hats or caps will be allowed to be worn in the classroom during class sessions. If you elect to wear a hat or cap during the lectures or class discussion, your decision will be respected. However, you should also respect the instructor's decision to not award you daily participation points based upon that decision. 3. Dress Code for Presentations: Professional dress is expected for all design and technical presentations in class. Failure to adhere to the guidelines posted by the instructor will result in a deduction of ten percent (10%) from your final presentation score. 4. No food or drink is allowed in the classroom at any time. 5. Cellular telephones are to be turned off or put on silent ring tone during the class period. Texting is strictly prohibited during the class period. No "ear phone" units will be allowed. If your cell phone rings during the lecture or you are texting, you are subject to losing all participation point for that class period. 6. Laptops must emit no noise. Make sure your laptop is warmed up and your battery charged before class starts. A laptop is allowed only for taking notes or accessing relevant course material during the class. Checking email, playing a game, messaging and other non-class related activities are not allowed at any time. 7. Harassment of your fellow students of any kind will not be tolerated. 8. No children, friends, family members or guests are allowed in the class without prior approval. Failure to adhere to this rule will result in a "0" for that class period.
Conduct of the Class and Care of the Facility:	Please note the following rules for the conduct of the class. 1. Class will begin at the appointed time. 2. Class is dismissed when so indicated by the instructor. Students are expected to be on time and stay throughout the entire class period. Leaving the classroom before the class is dismissed without prior approval from the instructor will result in a loss of participation for that class. 3. All class members are required to keep the classroom in a clean and orderly manner to facilitate the number of students using it each day. Failure to maintain the classroom as requested by the instructor will result in a deduction in participation points for all class members for that date of instruction. 4. Lecture Notes and Handouts will be uploaded to the course website. Handouts distributed during a class period will not be distributed at any other time. It is the student's responsibility to get a copy form another student or source.
Submission of Assignments:	Assignments are due at the start of the class session. No late work will be accepted without proper documentation.
Formatting Documents:	Microsoft Word is the standard word processing tool used at PVAMU. If you are using other word processors, be sure to save the document in either the Microsoft Word, Rich-Text, or plain text format.
Exam Policy:	Exams should be taken as scheduled. No makeup examinations will be allowed except under documented emergencies (See Student Handbook).

University Rules and Procedures	
Disability Statement (See Student Handbook):	Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator. Students should also inform the instructor of their need for accommodations immediately at the outset of the course so that a solution designed to being successful in class can be produced.
Academic Misconduct (See Student Handbook):	You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.
Forms Of Academic Dishonesty:	1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations. 2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test. 3. Fabrication: use of invented information or falsified research. 4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else's words, ideas, or data as one's own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one's own work also constitutes plagiarism.
Nonacademic Misconduct (See Student Handbook)	The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either: (1) the instructor's ability to conduct the class; (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.
Sexual misconduct (See Student Handbook):	Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating this policy will be subject to disciplinary action.
Student Academic Appeals Process	Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

Technical Considerations for Online and Web-Assist Courses	
Minimum Hardware and Software Requirements	Pentium with Windows XP or PowerMac with OS 9 -56K modem or network access -Internet provider with SLIP or PPP -8X or greater CD-ROM -64MB RAM -Hard drive with 40MB available space -15" monitor, 800x600, color or 16 bit -Sound card w/speakers -Microphone and recording software -Keyboard & mouse -Netscape Communicator ver. 4.61 or Microsoft Internet Explorer ver. 5.0 /plug-ins -**Participants should have a basic proficiency of the following computer skills:** ·Sending and receiving email ·A working knowledge of the Internet ·Proficiency in Microsoft Word ·Proficiency in the Acrobat PDF Reader -Basic knowledge of Windows or Mac O.S.
Netiquette (online	Students are expected to participate in all discussions and virtual classroom chats when directed to do so. Students are to be respectful and courteous to others in the discussions. Foul or abusive language will not be tolerated. When referring to information from books, websites or articles, please use APA standards to reference sources.
etiquette):	Students should call the Prairie View A&M University Helpdesk at 936-261-2525 for technical issues with accessing your online course. The helpdesk is available 24 hours a day/7 days a week. For other technical questions regarding your online course, call the Office of Distance Learning at 936-261-3290 or 936-261-3282
Technical Support:	All emails or discussion postings will receive a response from the instructor, usually within 48 hours. Urgent emails should be marked as such. Check regularly for responses. You can send email anytime that is convenient to you, but the instructors will check their email messages continuously during the day throughout the work-week (Monday through Friday) during normal office hours. Instructors should respond to email messages during the work-week by the close of business (5:00 pm) on the day following **their receipt** of them. Emails received on Friday will be responded to by the close of business on the following Monday.
Communication Expectations and Standards:	You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.

ACCREDITATION/ASSESSMENT CRITERIA Table No. 1-NAAB CRITERIA

This course is structured to assist the student meet the following criteria shown in **Table No. 1** as established by the National Architectural Accreditation Board (NAAB). To view the entire list, go to the NAAB website, www.naab.org and access "2014 NAAB Conditions for Accreditation."

Performance Criteria:	Ability ☑	Understanding ☑	Course Learning Outcomes Competencies (T, R, I)		
			T Taught	R Reinforced	I Utilized/ Integrated
REALM A: Critical Thinking and Representation					
A.1. Professional Communication Skills (Ability)					
A.2. Design Thinking Skills (Ability)					
A.3. Investigative Skills (Ability)					
A.4. Architectural Design Skills (Ability)					
A.5. Ordering Systems (Ability)					
A.6. Use of Precedents (Ability)					
A.7. History and Global Culture (Understanding)					
A.8. Cultural Diversity and Social Equity (Understanding)					
REALM B: Building Practices, Technical Skills, and Knowledge					
B.1. Pre-Design (Ability)					
B.2. Site Design (Ability)					
B.3. Codes and Regulations (Ability)					
B.4. Technical Documentation (Ability)					
B.5. Structural Systems (Ability)	☑		T		
B.6. Environmental Systems (Ability)					
B.7. Building Envelope Systems and Assemblies (Understanding)					
B.8. Building Materials and Assemblies (Understanding)					
B.9. Building Service Systems (Understanding)					
B.10. Financial Considerations (Understanding)					
REALM C: Integrated Architectural Solutions					
C.1. Research (Understanding)					
C.2. Integrated Evaluations and Decision-Making Design Process (Ability)					
C.3. Integrative Design (Ability)					
REALM D: Professional Practice					
D.1. Stakeholder Roles in Architecture (Understanding)					
D.2. Project Management (Understanding)					
D.3. Business Practices (Understanding)					
D.4. Legal Responsibilities (Understanding)					
D.5. Professional Conduct (Understanding)					

Course Outline: Event Schedule

This schedule is subject to change as the semester proceeds in order to cover the most important material in the time allotted. Any revisions will be duly noted and announced in class.

WEEK CLASS	DATE [DAY]	TOPICS & ASSIGNMENTS
Week #1 Class #1	January 15, 2019 [Tuesday]	Class Introduction Course Syllabus Review Student Data Collection Introduction: Course Notebook
Week #1 Class #2	January 17, 2019 [Thursday]	NO CLASS MEETING Seismic and Tornado Research assigned
Week #2 Class #3	January 22, 2019 [Tuesday]	Introduction: Structural System Drawings INTRODUCTION + FORCES IN EQUILIBRIUM – THEORY **SEISMIC AND TORNADO RESEARCH DUE**
Week #2 Class #4	January 24, 2019 [Thursday]	FORCES IN EQUILIBRIUM – THEORY **STRUCTURAL SYSTEM DRAWINGS (#1) DUE**
Week #3 Class #5	January 29, 2019 [Tuesday]	FORCES IN EQUILIBRIUM – APPLICATION Introduction: Structural System Presentation (Topics + Groups)
Week #3 Class #6	January 31, 2019 [Thursday]	FORCES IN EQUILIBRIUM – APPLICATION **STRUCTURAL SYSTEM DRAWINGS (#2) DUE**
Week #4 Class #7	February 5, 2019 [Tuesday]	FORCES IN EQUILIBRIUM – APPLICATION
Week #4 Class #8	February 7, 2019 [Thursday]	FORCES IN EQUILIBRIUM – APPLICATION **STRUCTURAL SYSTEM DRAWINGS (#3) DUE**
Week #5 Class #9	February 12, 2019 [Tuesday]	**WRITTEN EXAMINATION #1**
Week #5 Class #10	February 14, 2019 [Thursday]	INTERNAL FORCES - STRESS - STRENGTH – THEORY **STRUCTURAL SYSTEM DRAWINGS (#4) DUE**
Week #6 Class #11	February 19, 2019 [Tuesday]	**STRUCTURAL SYSTEM PRESENTATIONS DUE**
Week #6 Class #12	February 21, 2019 [Thursday]	**STRUCTURAL SYSTEM PRESENTATIONS DUE** **STRUCTURAL SYSTEM DRAWINGS (#5) DUE**
Week #7 Class #13	February 26, 2019 [Tuesday]	INTERNAL FORCES - STRESS - STRENGTH – APPLICATION Introduction: Structural System Model (Description)
Week #7 Class #14	February 28, 2019 [Thursday]	INTERNAL FORCES - STRESS - STRENGTH – APPLICATION **STRUCTURAL SYSTEM DRAWINGS (#6) DUE**
Week #8 Class #15	March 5, 2019 [Tuesday]	INTERNAL FORCES - STRESS - STRENGTH – APPLICATION
Week #8 Class #16	March 7, 2019 [Thursday]	PROPERTIES OF STRUCTURAL ENGINEERING MATERIALS **STRUCTURAL SYSTEM DRAWINGS (#7) DUE**
Week #9	March 11-15, 2019	**SPRING BREAK – NO CLASSES**
Week #10 Class #17	March 19, 2019 [Tuesday]	PRINCIPLES OF COLUMN BEHAVIOR
Week #10 Class #18	March 21, 2019 [Thursday]	PRINCIPLES OF BEAM BEHAVIOR **STRUCTURAL SYSTEM DRAWINGS (#8) DUE**
Week #11 Class #19	March 26, 2019 [Tuesday]	**WRITTEN EXAMINATION #2**
Week #11 Class #20	March 28, 2019 [Thursday]	Preliminary Review of Structural System Model **PREPARE SKETCH-UP OR REVIT MODEL IN ADVANCE**

Week #12 Class #21	April 02, 2019 [Tuesday]	TRUSSES – TRIANGULATION OF FORCES
Week #12 Class #22	April 04, 2019 [Thursday]	CABLES + ARCHES **STRUCTURAL SYSTEM DRAWINGS (#9) DUE**
Week #13 Class #23	April 09, 2019 [Tuesday]	FORCE SYSTEMS
Week #13 Class #24	April 11, 2019 [Thursday]	FORCE SYSTEMS **STRUCTURAL SYSTEM DRAWINGS (#10) DUE**
Week #14 Class #25	April 16, 2019 [Tuesday]	FORCE SYSTEMS
Week #14 Class #26	April 18, 2019 [Thursday]	CROSS-SECTIONAL PROPERTIES OF STRUCTURAL MEMBERS
Week #15 Class #27	April 23, 2019 [Tuesday]	CROSS-SECTIONAL PROPERTIES OF STRUCTURAL MEMBERS
Week #15 Class #28	April 25, 2019 [Thursday]	**WRITTEN EXAMINATION #3**
Week #16 Class #29	April 30, 2019 [Tuesday]	**COURSE NOTEBOOKS DUE** **STRUCTURAL SYSTEM MODELS DUE** Class Evaluation Surveys

STATEMENT OF AGREEMENT

I have read the Course Syllabus for **ARCH 3293** for the Spring Semester 2019, including the Class Lecture and Event Schedule, and agree to abide by the conditions for the class as spelled out in this document. My signature indicates my personal commitment to meeting the course objectives and succeeding in this educational endeavor.

_____

Signature-Student

_____ _____ _____

Student name (Please print neatly) Student ID # Date

_____

Signature-Instructor

_____ _____

Instructors name Date

RETURN THIS PAGE FROM THE SYLLABUS TO THE INSTRUCTOR TO COMPLETE YOUR ENROLLMENT IN THIS COURSE.

🗁 **RECEIVED WITH STUDENT'S SIGNATURE: _____**

☐ **ENTERED INTO GRADE BOOK**: _____