



PRINCIPLES OF BUSINESS PROCESS ANALYSIS AND DESIGN

BUSA 415, Section # 83434

**BA 245 Tuesday Thursday 2:00-3:15 pm, BA 245
COURSE SYLLABUS: Fall 2025**

INSTRUCTOR INFORMATION

Instructor: Anil Kumar

Office Location: Commerce BA 211, Dallas 2065

Office Hours: TR 11:00 am – 12:30 pm (Commerce) and W 1:10-3:10 pm (Dallas)

University Email Address: anil.kumar@tamuc.edu

Preferred Form of Communication: email

Communication Response Time: within 24 hours

COURSE INFORMATION

Textbook(s) Required: None. Links for all course readings and software tools will be provided within the D2L course shell.

Optional Texts and/or Materials: None.

Bulletin Description

This course discusses the process, methods, techniques and tools that organizations use to determine how they should conduct their business, with a particular focus on how computer-based technologies can most effectively contribute to the way business is organized. The course covers a systematic methodology for analyzing a business problem or opportunity, determining what role, if any, computer-based technologies can play in addressing the business need, and articulating business requirements for the technology solution.

Student Learning Outcomes

At the end of this course students will be able to:

1. **Analyze, Model, and Document Business Processes:** Critically analyze existing business processes, identify opportunities for improvement, and articulate clear requirements. Students will model and document business systems using industry-standard notations like Data Flow Diagrams (DFDs) and Entity-Relationship Diagrams (ERDs) to effectively communicate system requirements to stakeholders.
2. **Manage Business Process Projects:** Understand and apply key concepts of project management, including the use of tools like Work Breakdown Structures and Gantt charts, within both traditional and agile systems development life cycles.
3. **Evaluate and Propose Technology Solutions:** Conduct a comprehensive feasibility analysis to evaluate potential technology solutions for business problems, considering technical, economic, legal, and operational factors, and propose viable system architectures.
4. **Leverage AI for Process Analysis and Design:** Use and reflect on the application of various AI tools to assist in the analysis, design, and documentation of business processes, recognizing their role as a learning buddy and a professional asset.

COURSE REQUIREMENTS

Minimal Technical Skills Needed

Students are expected to be proficient in D2L and the MS-Office suite. Students are expected to submit their assignments using MS-Office tools via D2L, where all course materials will be accessible.

Instructional Methods

The course employs a combination of mini lectures and participatory activities to enhance your comprehension and application of business process analysis and design concepts. We analyze system requirements, business processes and data, for organizations using real-world events from the past five years. The team-based business process analysis and design project is used to facilitate peer learning as an instruction method.



- Participatory learning (30%)
- Mini Lecture: Delivery of material in a mini lecture format (20%)
- Teamwork: Project and problem sets (50%)

Student Responsibilities or Tips for Success in the Course

I strongly encourage you to create a schedule for your learning in the course. Each one of you has a life outside of this course and the schedule will help you manage your time without being overwhelmed.

Teamwork is crucial for academic and professional success. Engaging with classmates can enhance your learning experience. Don't hesitate to ask questions and seek guidance when needed. Communicate, clearly and timely, to ensure that roles in your team are well defined, deadlines are set, and expectations are realistic.

Login into D2L on a regular basis to make sure that you have the latest information about the course.

I am there to help you succeed in your learning journey. Email me when you are challenged by course materials, and I'll help you. All emails will be answered within 24 hours.

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GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

Total points corresponding to the final letter grades

A = 450 - 500 Points System Analyst (Architect)

B = 400 - 449 Points Business Process Analyst (Process modeling)

C = 350 - 399 Points Associate Business Analyst (Methodology and data modeling)

D = 300 - 349 Points Analyst (Root cause analysis and project management)

F = < 300 Points Need training

Weights of the assessments in the calculation of the final letter grade.

Example:

Assignments 25%

Mini projects 75%

TOTAL 100%

Assessments

Assignments

Every other week students will complete either a reflective journal or a real-world problem situation or a combination of both. The former will help you reflect on your learnings and share insights gained while the latter will help you demonstrate your understanding by applying concepts to propose practical solutions.

Mini-projects

Throughout this course, you'll complete a series of mini projects designed to help you apply what you've learned to practical scenarios. These projects are cumulative, with each building on the last. You'll start by acting as an analyst to analyze existing business processes and identifying opportunities for improvement. Next, you'll take on the role of an Associate Business Analyst to document system data requirements. In the third mini project, you'll become a Business Process Analyst to document systems process requirements. Finally, you'll act as a system analyst, creating a professional *Business Plan (Requirement Specification)* report that addresses the following: the system that was analyzed (designed), the problems encountered during the process, the skills acquired, and the lessons learned from the business process analysis and design project. These mini projects will challenge you to think critically, use AI as a tool, and demonstrate your growing expertise in business processes.

Submit all assignments and mini projects by the specified deadline. Late submissions will incur a 25% deduction for each day beyond the due date. For example, if a submission is late by two days, then 50% will be deducted. All submissions will be graded and posted on D2L within 10 business days.

COURSE OUTLINE / CALENDAR

This is a tentative schedule and is subject to change at the instructor's discretion. All changes will be communicated to the students.

A classroom is a place to meet and discuss ideas. As you read the assigned materials, you should ask yourself, "What does this reading tell you about business process analysis and design? How can you relate it to what you know about business process analysis and design? How does it add to your professional growth? Do you agree with the author(s)? If not, why not? What do you foresee happening in the future? Discussions outside of class are very useful and I encourage you to form study groups. While I am there to guide you through the learning process, it is one where each one of you travels on her/his own with the help of your peers.

Content



-  Fundamentals: Core Concepts, understanding, tools (50%)
-  Industry Applications: Linking theory and real-world (40%)
-  Latest Developments: Recent advances and future trends (10%)

Levels



-  Introductory: Appropriate for beginners (50%)
-  Specialized: Assumes experience in practice area (30%)
-  Advanced: In-depth exploration (20%)

Week 1: Introduction to business process analysis and design systems

- **Lecture Topics:** Course logistics and overview of business process analysis and design.
 - **Assignments:** Self introduction (10 pts) (due end of 1st week).
 - **Activities:** Discussing the importance of systems thinking and starting with the why to understand business processes and the role of the analyst. What is a business process? Why is process analysis important?
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Week 2: Managing business process analysis and design projects

- **Lecture Topics:** Introduction to project management concepts, Work Breakdown Structures (WBS), PERT, and Gantt charts.
 - **Assignments:** Importance of organizational processes (25 pts).
 - **Activities:** Creating WBS, Gantt and PERT charts sessions for business process analysis and design projects.
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Week 3: SDLC and Agile

- **Lecture Topics:** Introduction to system development life cycle (SDLC) and Agile methodologies for business process analysis and design driven projects, tools & techniques. Why is adaptability crucial in today's business environment?
 - **Assignments:** No Homework.
 - **Activities:** Sessions on using the right methodology for business process analysis and design projects and a comparison of SDLC and Agile methodologies to help students understand when to use each.
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Week 4: Mini-project #1 – Project management for a real-world scenario

- You've spent the past few weeks understanding the value of business processes learning how to manage business process analysis projects and using a methodology. Now, it's time to put those foundational skills to work. This week's mini project is your chance to show that you can translate a real-world problem into a solid project plan for a proposed business process improvement. (75 pts) Students will use their chosen AI tool as a learning buddy and submit a reflection.
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Week 5: System Requirements: An Introduction

- **Lecture Topics:** Problem solving, root cause analysis, and functional & non-functional requirements for business process analysis and design systems.
 - **Assignments:** No homework.
 - **Activities:** Sessions on problem solving to address root cause and determine system requirements for business process analysis and design projects. Why is it crucial to identify the root cause, not just the symptom? Introduction to techniques like the 5 Whys and Fishbone diagrams.
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Week 6: System Requirements: Data modeling

- **Lecture Topics:** How do we model the data a system needs? Introduction to Entity-Relationship Diagrams (ERDs) and concepts like entities, attributes, and relationships.
 - **Assignments:** ERD design and AI reflection (25 pts) due end of Week 6.
 - **Activities:** Session on basic concepts of ERDs – entities, attributes, relationships, and keys.
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Week 7: System Requirements: Advanced data modeling

- **Lecture Topics:** ERDs for complex problems focusing on business process analysis and design projects
 - **Assignments:** No homework.
 - **Activities:** Problem solving session on creating ERDs for complex situations, e.g., generalization and specialization, subtypes etc.
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Week 8: Mini project #2 - Data modeling for a real-world scenario

- You've spent the past few weeks understanding the value of systems requirements, root cause analysis, functional and non-functional requirements, well-organized data, learning how to visually model it with ERDs, and applying the rules of normalization to ensure its integrity. Now, it's time to put those foundational skills to work. This week's mini project is your chance to show that you can translate a real-world problem into a well-defined requirements document from a data modeling perspective. (100 pts)
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Week 9: System Requirements - Process Modeling with DFDs.

- **Lecture Topics:** How do we model the flow of data and processes within a system? Introduction to system context diagrams and functional decomposition diagrams (FDD) for business process analysis and design.
 - **Assignments:** No homework.
 - **Activities:** Session on process modeling concepts – data flows, data stores, and processes and the context diagram and FDD.
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Week 10: Advanced process modeling

- **Lecture Topics:** Level 0 data flow diagrams for business process analysis and design projects.
 - **Assignments:** DFD design and AI reflection (25 pts) due end of Week 10.
 - **Activities:** Session on creating DFDs for a complex system.
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Week 11: System requirements: Balancing process models

- **Lecture Topics:** Balancing and synchronizing system models for business process analysis and design projects. How do we ensure our process models are consistent and accurate? The rules of balancing DFDs.
 - **Assignments:** No homework.
 - **Activities:** Session on maintaining consistency and coherence across different levels of process diagrams.
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Week 12: Mini project #3 – Process modeling for a real world scenario

- You've spent the past few weeks understanding the value of system process models learning how to visually model it with DFDs. Now, it's time to put those foundational skills to work. This week's mini project is your chance to show that you can translate a real-world problem into a well-defined requirements document from a process modeling perspective. (100 pts)
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Week 13: System feasibility

- **Lecture Topics:** Why is it important to ensure a project is viable? Feasibility and feasibility analysis for business process analysis and design projects.
- **Assignments:** No homework.
- **Activities:** Discussion on technical, operational, economic, schedule, and social/political feasibility.

Week 14: System architecture

- **Lecture Topics:** System architecture types, e.g., centralized, distributed etc. for business process analysis and design projects. What is the overall structure of the proposed system? Introduction to key architectural concepts (e.g., client-server, cloud computing).
- **Assignments:** Feasibility analysis (50 points)
- **Activities:** Sessions on system architecture for business process systems.

Week 15: Integrating learnings from all modules.

- **Lecture Topics:** A holistic view of system process analysis and design. Best practices for presenting business plan (requirements specifications).
- **Assignments:** Prepare capstone mini project report.
- **Activities:** Sessions of the big picture for business process analysis and design.

Week 16: Mini project #4 and course wrap-up

- This is your final and capstone mini project, where you will act as a systems analyst. The final deliverable is a professional-grade business plan (Requirements Specifications) that showcases your technical expertise and strategic insight. It will test your research, analytical, and communication skills, challenging you to synthesize complex concepts and present them in a clear, compelling, and forward-thinking format suitable for both technical and non-technical audiences.
- **Activities:** Project presentations.
- **Assignments:** Business Plan (Requirements Specifications) due (100 points).

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Video Conferencing Tool

https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

Interaction with Instructor Statement

All emails will be returned within 24 hours. Please make sure to include the course number and section in the email subject.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

Students are required to meet the expectations listed below.

- **Professional Behavior:** It is important that you always maintain a professional demeanor, including during “electronic communication”. ETAMU expects this from you, as do current and future employers. In discussing concepts and ideas we need to respect viewpoints, even when we disagree.
- **Regular and Timely Participation:** You are expected to read all course materials and be prepared to engage in the learning process.

- **Assignments:**
 - Submitted assignments must be correctly formatted and free of grammatical and stylistic errors. Students in BUSA 415 should be proficient with software for word processing, spreadsheets, databases, graphics, and presentations, and with web browsers and search engines. Spelling and grammatical errors will detract from grade!
 - Assignments must be submitted on time. Assignments are due at the date and time listed. Start working on each assignment as soon as you possibly can so that you can ask questions in a timely manner if needed. If you do not submit assignments on time, you will lose 25% of the grade per day late.
 - Assignments must be complete. You must complete and submit assignments at the specified due date and time to receive credit for the assignment. Please don't submit work that is only "half-finished".
 - Please submit all assignments in a format that is compatible with Microsoft Office. Save all documents as doc or docx files. Do not submit assignments as PDF documents.
 - Back-ups are required: You are required to back up all your assignments on a disk that can be submitted to me upon my request. If work is lost due to insufficient back-up, you will not have the opportunity to recreate and submit later.
- Good communication skills are a requirement of all management professionals. Company recruiters consider these skills critical. Therefore, 10% of the grade of any submitted paper or report will be based on its quality. Quality refers to following the required format, order, and layout of the submission, the inclusion of graphs and charts where appropriate, and the use of correct grammar, spelling, and punctuation. Keep professionalism in mind. Submit your work in the same way you would to your manager in the business world. All submissions are to be typed using Times New Roman, font size 12 and single spaced. Plagiarism will result in an automatic fail.
- E-mail: All communication for students will be posted as an announcement (and email) on D2L. Therefore, students must routinely check e-mail sent to your respective ETAMU email accounts.
- Make-up or late assignments will only be accepted if you obtain university approved documentation for your excuse. There are no make-up assignments for poor performance on a previous assignment.
- Changes to schedule: While I plan to stick to the class schedule, there may be occasions to modify the schedule. In these cases, all changes will be posted as a D2L announcement and an e-mail to your ETAMU account. It is your responsibility to become aware of any such changes.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

ETAMU Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedures 13.99.99.R0.01](#)

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

Academic Integrity

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

[Undergraduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

<https://inside.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyForm.pdf>

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

East Texas A&M University

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: [Office of Student Disability Resources and Services](#)

Nondiscrimination Notice

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and ETAMU Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all ETAMU campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

ETAMU Supports Students' Mental Health

The Counseling Center at ETAMU, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

AI use policy [Draft 2, May 25, 2023]

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

13.99.99.R0.10 Graduate Student Academic Dishonesty

BUSA 415 AI use course policy:

As your professor, I advocate for the use of AI tools like ChatGPT, Gemini etc. to enrich your learning journey, boost productivity, and advance your career. AI can be an invaluable asset for idea generation, research, and honing analytical skills. However, it's essential to use these tools responsibly and ethically to preserve the integrity of your work and adhere to academic standards.

Acceptable Use of AI:

1. **Research and Idea Generation:** Use AI to help brainstorm topics, generate ideas, and gather preliminary information.
2. **Improving Writing:** Use AI for proofreading to enhance the clarity, grammar, and structure of your writing.
3. **Personalized Learning:** Engage with AI to improve your understanding of course material and develop relevant skills, such as prompt engineering and queries etc.

Unacceptable Use of AI:

1. **Plagiarism:** Presenting AI-generated content as your own without appropriate attribution is strictly forbidden. All submissions must be original and demonstrate your personal understanding and effort.
2. **Cheating:** Using AI to complete assignments, quizzes, or exams, undermining the learning process, is not allowed.
3. **Fabrication of Data:** Generating or altering data using AI tools to misrepresent research findings or results is unacceptable.
4. **Misrepresentation:** Presenting AI-generated content or ideas your own is prohibited.

Guidelines for Responsible Use:

1. **Cite AI Sources:** If you use AI tools to gather information or generate content, provide appropriate citations and acknowledge the use of these tools in your work.
2. **Maintain Academic Integrity:** Ensure that your submissions reflect your own understanding, analysis, and synthesis of the material. Use AI as a supplement, not a substitute, for your learning and effort.
3. **Transparency:** Be honest about the extent to which AI has assisted you in your work. When in doubt, consult with the instructor on how to appropriately integrate AI into your assignments.
4. **Learn and Grow:** Use AI as a learning tool to enhance your knowledge and skills. Strive to understand and internalize the concepts rather than relying solely on AI outputs.

Consequences of Misuse: Violations of this AI policy will be treated as academic misconduct and will be subject to the university's academic integrity procedures. Penalties may include failing the assignment, failing the course, or further disciplinary action as outlined in the university's academic integrity policy.

By adhering to these guidelines, you can effectively harness the power of AI to support your educational journey while maintaining the highest standards of academic integrity and professionalism.

The course AI Policy developed by Dr. Greg Lubiani was adapted for this course.

Department or Accrediting Agency Required Content