MGT 4057 Syllabus

Business Process Analysis & Design, 3 Credits

Fall 2026

Instructor Information

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General Course Information

Description

Organizations can achieve efficiencies and become more competitive by integrating and improving their business processes and by aligning those processes with corporate strategies and goals. With most industries facing digital disruption and increasing competitive pressures, the challenges to achieving this alignment have never been greater. This course is dedicated to examining the issues relating to the design and management of business processes, with a particular focus on the Information Technology tradition of business process study.

Special emphasis is given to Enterprise Systems such as Enterprise Resource Planning (ERP), which support the primary business processes in most large organizations. Students are introduced to Business Process Management (BPM), business process modeling (BPMN), enterprise systems (with a focus on SAP ERP), and the emerging role of agentic AI in business automation. The course combines conceptual material with extensive hands-on work in SAP and a capstone ERP simulation.

Course Learning Outcomes

Upon successful completion of this course, students will be able to:

- Describe the nature of business processes and explain best practices in business process management, including methods to align business processes with organizational strategy and goals.
- Create and read models of business processes using BPMN and use these models to simulate operations and gain insight into process execution and design.
- Explain the nature of the software infrastructure that supports business processes, including enterprise systems such as ERP and CRM.
- Identify and explain the major risks, benefits, and implementation strategies associated with enterprise system projects.
- Effectively use an enterprise system (SAP) to execute key steps in core business processes, and evaluate the role of agentic AI in next-generation business automation.

Required Course Materials

Software: Camunda Modeler (free, https://camunda.com); SAP GUI (free, download links provided on Canvas); and the n8n agent platform (14-day free trial, with an optional monthly subscription of approximately $24 if extended access is needed).

ERPsim: Every student must purchase an ERPsim Simulation keycode (approximately $55), which is required to complete the ERPsim Simulation Game component of the course. The Manufacturing Game Participant's Guide (Léger et al.) is provided free through Canvas.

Recommended textbook: Magal, S. & Word, J., Integrated Business Processes with ERP Systems, available free through eBooks @ Georgia Tech.

Additional readings and reference material are posted on Canvas.

Grading Policy

Grades are assigned on a point basis using weighted course components; Canvas applies the component weights to compute a progressive overall percentage grade throughout the semester. The SAP Project points are further broken down into SAP Cases and SAP Challenges, with Cases weighted more heavily than Challenges.

Letter grade scale: A: 90–100% | B: 80–89% | C: 70–79% | D: 60–69% | F: below 60%. Consistent with Georgia Tech policy, final course grades are awarded on a scale of A–F with no +/- grades.

Components

Course Component	Weight
Participation	10%
Mini-Assignments	10%
SAP Project (cases and challenges)	25%
AI Agentic Business Systems Project	10%
ERPsim Simulation Game	15%
Mid-Semester Exam	15%
Final Exam	15%
Total	**100%**

Description of Graded Components

Participation (10%): Significant points are earned through class attendance and active participation in class activities and discussions. Students may miss up to three classes without penalty; additional absences are excused only with acceptable medical documentation or evidence of an Institute-Approved Absence. Arriving late, leaving early, or disruptive behavior may reduce participation credit.

Mini-Assignments (10%): Smaller individual and group assignments designed to reinforce concepts covered in lectures. For in-class group mini-assignments, only students present and signed in on the attendance sheet receive credit. Group members complete peer assessments for group work.

SAP Project (25%): An extensive series of hands-on SAP assignments, consisting of SAP Cases and SAP Challenges, that give students a deeper understanding of the software infrastructure supporting modern business processes. Assignments are graded by the instructor logging into SAP after each deadline and inspecting the work completed at that time.

AI Agentic Business Systems Project (10%): A group project introducing agentic AI and its implications for business automation, using the n8n agent platform. Groups present their findings and analysis to the class.

ERPsim Simulation Game (15%): A team-based capstone in which students play the ERPsim Manufacturing Game and submit an ERPsim report analyzing their firm's strategies and outcomes. Approximately one third of the ERPsim grade is based on financial performance in the simulation; the remainder is based on the written analysis. Full participation in the ERPsim game is mandatory for all students.

Mid-Semester Exam (15%) and Final Exam (15%): Both exams are closed book and closed notes, taken on campus, and proctored using an Institute-approved digital proctoring system (HonorLock). The final exam is 90 minutes long and is not cumulative; it focuses on material not covered in the mid-semester exam. Exams may cover lecture material, Canvas content, and any referenced readings.

Course Policies

Attendance and Participation

In keeping with Georgia Tech policy, this course is delivered in person and is not recorded or offered virtually; students are expected to attend all scheduled classes. Attendance is tracked through an in-class sign-up sheet each session and is counted in the final grade as part of the Participation component. Students may miss up to three classes without penalty and without advance notice; additional absences are excused only with acceptable medical documentation or documentation of an Institute-Approved Absence (such as an approved athletic event, official Institute activity, mandatory military deployment, hospitalization, or the funeral of an immediate family member). Foreseeable personal events, interviews, work conflicts, and extracurricular activities are not excused absences.

Full attendance is mandatory for all ERPsim class sessions regardless of the three-absence allowance.

Extensions, Late Assignments, & Re-Scheduled/Missed Exams

Generally, late work will not be accepted, nor work incorrectly submitted. Missed classes due to illness, family emergencies, interviews, or similar circumstances are addressed through a forgiveness policy: up to four recorded attendance misses are automatically allowed, and there is no penalty for two missed in-class participation activities. Absences covered by a Dean of Students letter, or appropriate medical documentation are handled in accordance with Georgia Tech policy. Please see the next section for times when an IAA is applicable.

Institute-Approved Absences (IAA)

An IAA allows you to miss class (get credit for attendance), **but not the work**. An IAA does not allow you to miss assignment deadlines.

To receive credit for **missed** in-class participation activities:

1. **Obtain documentation** (medical note, approved IAA, or Dean of Students letter)
2. **Complete the missed participation activity**
3. **Email** the Professor **the completed work and ALL documentation (in <u>one</u> email) within 10 working days** of the absence

- Missing documentation = no credit.
  - Athletes **must** include in the submission email the supporting IAA, even if the IAA was provided earlier or is available online.
- The instructor will not follow up on missing work—this is solely the student's responsibility.
- Do **not** email the instructor to inquire about what happened during a missed class – see Canvas.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review Georgia Tech's Honor Code and the student Code of Conduct.

Any student suspected of cheating, plagiarism, fabrication, falsification, multiple submission, or complicity in academic misconduct on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations. All submitted work must be the student's own original work; copying or submitting material created or published by others without proper attribution is prohibited.

Collaboration, Group Work, and Use of Generative AI

Several course components—including some mini-assignments, the AI Agentic Business Systems project, and the ERPsim Simulation Game—are completed in teams. Teams of 4 or 5 students are formed early in the semester and remain in place for the duration of the course; students are encouraged to self-organize, and any student not in a team will be allocated to one. All exams are closed book and closed notes and must reflect the student's own work.

Generative AI tools may be used only when explicitly permitted by the instructor for a specific assignment. When permitted, students remain fully responsible for the accuracy, quality, and originality of their submissions.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your needs and to obtain an accommodations letter. Please also email me as soon as possible in order to set up a time to discuss your learning needs. Accommodations for a specific event will be considered after the request but before the event; no retroactive accommodations will be made.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Additional Criteria for Successful Completion

To successfully complete this course, students must earn a final weighted score of at least 60% across all course components and must sit both the Mid-Semester Exam and the Final Exam in person on campus during the scheduled times. Students are also required to fully participate in the ERPsim Simulation Game sessions. Requests to take exams remotely or at alternate times will be denied except for accommodations approved by the Office of Disability Services, Institute-Approved Absences, or the three-final-assessments-in-one-day rule under Georgia Tech policy.

Campus Resources for Students

Graduate Student Academic and Professional Success Resources

A list of resources for graduate students is available on the Office of Graduate and Postdoctoral Education website, including academic resources, student services, and professional development opportunities.

Student Well-Being

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A comprehensive list of wellness-related resources is maintained by the Office of the Vice President for Student Engagement and Well-being at students.gatech.edu/student-resource-guide.