

# INLS 582 003: Systems Analysis

This course, offered by the UNC School of Information and Library Science, will introduce the basic concepts underlying systems analysis, focusing on contextual inquiry/design and data modeling, and the application of those analysis techniques in the analysis and design of organizational information systems. Course objectives include:

- Develop an understanding of the role of information systems in modern organizations.
- Become familiar with a variety of information systems analysis and problem-solving approaches.
- Gain practical experience with information systems analysis, working as part of a project team.
- Continue the development of your professional skills, such as technical writing, working with clients.

By the end of the course, I hope you will have learned the fundamentals of systems analysis and design, developed an arsenal of tools and techniques as well as the knowledge of when to use them, and produced a proposal that will solve an information problem for a real client. Information system problems are pervasive in our society: what you learn here may help you in many aspects of your future endeavors.

**Time:** Wednesday, 5:45pm-8:30pm

**Place:** Manning 307

**Credits:** 3 Hours

**Instructor:** Andreas Orphanides

**Office Hours:** 30 minutes before class and 15 minutes after class, or by appointment

**Phone:** 401-261-8444 (cell)

**Email:** akorphan@ncsu.edu (please don't use my UNC address; I don't check it frequently)

**Required textbook:** Holtzblatt, K. & Beyer, H. (2<sup>nd</sup> edition). Contextual Design: Design for Life. San Francisco: Morgan Kaufmann. Available in the bookstore.

**Sakai:** We will use Sakai in this course to assign and submit assignments, return grades, share lecture notes, and provide access to other class resources. Please be sure that you can access the Sakai site for this course. You can reach Sakai by visiting <https://www.unc.edu/sakai/>.

## Grading

Grades for all assignments will be returned via Sakai. Semester grades will follow the standard UNC grading system as outlined by the [Office of the University Registrar](#). The grading scale will be curved, with the highest grades reserved (as outlined by the Registrar) for those with "the highest level of attainment that can be expected." Note that the threshold for an "H" (for High Pass) for graduate students requires exceptional performance, beyond what would be considered "A" work on the undergraduate grading scale.

Your grade for this course will be based on individual assignments, a team project, and participation. The approximate breakdown within those categories is as follows:

- 45% - Team project (includes information gathering plan, final presentation, final specifications, and team evaluations)
- 15% - Class participation and attendance (includes class discussion, case studies, Assignment Zero, and online participation)
- 40% - Individual homework assignments (Includes problem definition, artifact model assignment, activity/decision model assignment, and ER model assignment)

# Modeling Resources

- Visio Model Drawing Software: You will need a graphics tool for drawing models for several assignments. Microsoft Visio provides templates for the UML models we'll be drawing, as well as many other useful features. Visio is available free to UNC students through [the MSDN software program](#). If you need assistance, contact the SILS IT Help Desk.
- Although Visio is free to students, not everyone is a fan of it. Here are some (non-free but well regarded) alternatives:
  - [OmniGraffle](#) (Mac only; much beloved)
  - [LucidChart](#) (web-based; decent free version; discount student licenses available)

You may use any modeling software you like as long as your models conform to the approaches we cover. However, ensure that you use software that has features specifically tailored to the creation of models, not just an ordinary drawing program.

## Assignment Submission Instructions

### Format Requirements for your Assignments

All assignments (group and individual) must be prepared and submitted electronically as PDF files via Sakai. For group assignments, only one team member should submit the assignment to Sakai. For detailed information on submission requirements, please refer to the "SubmittingAssignments.pdf" document posted to the Resources section of Sakai.

### Digital Drawings for All Models

Many of the assignments for this course involve the creation of models to represent information systems from various perspectives. All models submitted as part of either group or individual assignments must be drawn using a computer program. Hand-drawn models are not acceptable. See the links above (under Resources) to learn more about what software is available to help you draw your models.

### Electronic Submission via Sakai

All assignments must be submitted electronically via Sakai. Sakai will record the time of your submission, and the time recorded by Sakai will be used to determine if a submission was turned in on time.

### Assignment Resubmission

In **some** cases I may allow – or require – the resubmission of certain individual or team assignments. For graded assignments, this is an opportunity to improve your grade: the recorded grade will be an average of the initial score and the score on resubmission. Resubmitted assignments are generally due 1 week after the graded original is returned to you, but see my comments on the returned assignments for specifics. In general, resubmission is available for any individual graded assignment where you receive less than 85%, but confirm with me prior to attempting a resubmission.

## Course Design and Approach

Systems Analysis is all about problem solving.

- What is the information system doing now?

- What should it be doing?
- What needs to change to make it do the right thing?
- How can we best implement the changes?

These are the fundamental questions whether you're fixing a broken system, adding new functionality to an existing system, or designing an entirely new system. The purpose of this course is to help you gain the knowledge, tools, and skills you need to answer these questions and design effective information systems.

The material we cover includes the theories that help explain information systems and people's interaction with them, tools and techniques for analysis and design, and best practices for systems analysis projects. Readings include research articles, case studies, and documentation for specific modeling techniques. A major part of the work for this class is analyzing an information system problem and designing a solution for a real client. This group project gives real-life experience in information system problem solving. Individual assignments provide additional practice on specific techniques.

Your work for this class falls into 3 categories: (1) preparation for class, (2) in-class activities, and (3) individual and group assignments.

## **Preparation**

The schedule describes what you should do to prepare for each class meeting. Typically, this involves readings from your textbook or other sources linked from the schedule, and occasional “prep slide” work which highlights key elements from the readings and includes some practice exercises.

Your preparation for each class meeting is the key to getting the most out of each class's activities. It is therefore essential that you complete the assigned readings prior to class. As you read, think about what interests/surprises/informs/challenges you. Consider what questions I might ask about the material, or what questions you will bring to our discussion. Be prepared to ask--don't assume that I'll answer an unasked question.

If the class reading includes practice exercises, **complete these exercises, write down (or create electronically) your solutions, and have these available in class.**

## **In-Class Activities**

Class meetings will typically consist of 3 sections:

- Business: operational questions, assignments, and other administrative issues.
- Instruction: an overview of the material for the day, including examples. This is also your opportunity to ask questions about the assigned readings.
- Activities: discussions and practices exercises, in small groups or as a class.

The overall format of this class assumes two 75-minute classes per week. As we meet once per week, we will cover approximately two lectures per class. The class numbering on the schedule reflects this.

## **Assignments**

Individual assignments will provide more opportunities for practicing specific skills, and let you demonstrate to me what you have learned. Team assignments are the deliverables for your semester project, which provides you with the opportunity to work on a larger systems analysis effort.

## Helpful Hints

- Plan ahead! Success in this course requires the same kind of project management that your team project does.
- Coordinate the work schedule for this class with the schedules for your other classes, work, and other activities. You are likely to have many deadlines toward the end of the semester, so it's important for you to keep up.
- Give yourself plenty of time to prepare for each class. If you are not prepared for class, you will not be able to fully participate in (and benefit from) the in-class activities.
- There is often more than one good or correct way to develop a model or design for a given situation. There are always many more bad and incorrect ways to do so!

## Policies

### Participation

Class participation is a key element of this course. All students are expected to come to class prepared to be engaged, to participate in all class exercises, and to contribute to group discussions. In addition:

- Be on time for class.
- If you know in advance that you will miss a class, arrive late to class, or leave early from class, please let me know ahead of time.
- If you miss class unexpectedly, please let me know why you were absent before the next class meeting.
- Repeated absences or late arrivals will negatively impact your class participation grade.
- If you don't understand something from class, **ask questions!** You can ask in class, you can stop by my office during office hours, or you can make an appointment to meet with me.
- "Quality is better than quantity." Class participation is part of your grade for this course. However, there are many ways to participate.

### Assignments

Assignments are due prior to the start of class on the day they are due unless otherwise specified. For assignments that are due on days when class is not scheduled, they must be submitted by the normal class starting time (even though class is not meeting) unless otherwise specified.

The required format for your assignments, as well as other submission tips, can be found in the "SubmittingAssignments.pdf" document posted to the Resources section of Sakai.

Assignments are to be submitted electronically using [Sakai](#). Late assignments (as determined by Sakai submission time) will be penalized 10% for each day late, up to a maximum of three days. A "day" here refers to a 24 hour period, or fraction thereof, after the due date. For example, a late assignment turned in 25 hours late will be penalized as two days late. No assignments will be accepted if more than 72 hours (3 days) late.

Start early and ask questions. **Assignments will be more time-consuming than you expect.** It is strongly suggested that you start working on assignments as soon as they are assigned. In this way, you'll have time to ask questions and complete your assignment before the due date.

Exceptions due to special circumstances will be considered on a case-by-case basis. When deemed appropriate, limited extensions may be granted. However, be sure to inform the instructor **AS SOON AS POSSIBLE** should you require a special accommodation. If a problem is known about in advance, then the instructor should be told

before it occurs. Exceptions are much less likely to be provided if requests for accommodation are not made in a timely fashion.

## Office Hours

Those with questions about course material or assignments, or seeking any other kind of assistance related to class, are encouraged to meet with the instructor. I do not have regularly scheduled office hours on campus, but I will endeavor to arrive to class at least half an hour early and can stay for 15 minutes after class. If this doesn't work for your schedule or if your needs are more complex than can be addressed briefly, please contact me directly and we can arrange a teleconference via Zoom or other technology.

## Academic Integrity and Diversity

UNC-Chapel Hill has had a student-administered honor system and judicial system for over 100 years. Because academic honesty and the development and nurturing of trust and trustworthiness are important to all of us as individuals, and are encouraged and promoted by the honor system, this is a most significant University tradition. You are responsible for being familiar with the UNC-Chapel Hill [Honor System](#).

- If your team is having difficulty with some aspect of your project, please come to see me. One of the educational outcomes of this class should be an increase in your effectiveness in getting advice from more experienced colleagues.
- The Honor Code, which prohibits giving or receiving unauthorized aid in the completion of assignments, is in effect in this class. The Instrument of Student Judicial Governance gives examples of actions that constitute [academic dishonesty](#). There are also some specific guidelines for this class:
  - You may give and receive assistance regarding the use of hardware and software.
  - You are welcome to work together on class preparation; discussing articles, walking through examples, working on exercises, etc. You may also ask your classmates for clarification of class notes.
  - All work you submit should be your own.
  - Individual homework assignments are to be done individually. You may consult the course readings and slides, your notes, and even other print or web sources. (Keep in mind, however, that what you find in other sources may not be consistent with what I want you to do.) You may **not** consult your classmates or other people; all questions should be addressed to me.
  - Team assignments are to be done as a team, with the team taking responsibility for all products. Work on the project should be distributed equitably among team members. I expect team members to discuss, consult, and even debate with each other about the project throughout the term.

In support of the University's diversity goals and the mission of the School of Information and Library Science, SILS embraces diversity as an ethical and societal value. We broadly define diversity to include race, gender, national origin, ethnicity, religion, social class, age, sexual orientation and physical and learning ability. As an academic community committed to preparing our graduates to be leaders in an increasingly multicultural and global society we strive to:

- Ensure inclusive leadership, policies, and practices;
- Integrate diversity into the curriculum and research;
- Foster a mutually respectful intellectual environment in which diverse opinions are valued;
- Recruit traditionally underrepresented groups of students, faculty, and staff; and
- Participate in outreach to underserved groups in the State.

The statement represents a commitment of resources to the development and maintenance of an academic environment that is open, representative, reflective, and committed to the concepts of equity and fairness.