

INFO 4880: IT Analysis & Design

Spring Semester 2026 (01/05/2026 - 05/02/2026) – CRN 21322

Modality: In-person

Mon-Wed-Fri 1300-1350 (1pm - 1:50pm)

Meshel Hall 338

Course Syllabus and Objectives

Professor: James W. Dittrich

Professional Qualifications:

- *M.C.I.S., Youngstown State University*
- *M.S. Education, Youngstown State University*
- *B.A.S., Computer Information Systems, Youngstown State University*

Phone: 330.941.1328 (office) 330.715.3342 (cell, please *SMS text* only and do not abuse the privilege)

Email: jwdittrich@ysu.edu (staff email) james.dittrich+YSU@gmail.com (project submission)

Additional Contact Methods: Course Discord Server

Preferred Contact Method: Discord direct message

Communication Expectations: Please rename your existing Discord handle to your first name and last initial of your surname/family name in the context of the course Discord Server.

Office: YSU University Relations - Tod Hall 135

Student Support Hours: 4pm - 5pm M-W, or by appointment

Website: https://jwdittrich.people.ysu.edu/INFO_4880/

How to refer to me: Simply "Dittrich" is fine, I am not a Ph.D. and do not require any specific honorifics.

Prerequisites

"C" or better in CSIS 3722 and either CSIS 3723 or CSIS 3782.

Course Sequence

This course requires the deep understanding of concepts in the above prerequisites:

- CSIS 3722 *Development of Databases*, e.g., relational database design, database modeling, cardinality, primary and foreign keys, normalization, CRUD operations, and
- CSIS 3723 *Networking Concepts and Administration* or CSIS 3782 *Cisco Networking Academy 1*, e.g., OSI 7-layer principle, protocols, firewalls/security, topology and design, performance considerations.
- This is the *Gen Ed* Capstone for all Information Technology majors.

Textbook

- **Modern Systems Analysis & Design (10th Edition)**, Joseph S. Valacich, Pearson. YSU Bookstore: https://ysu.bncollege.com/c/Modern-Systems-Analysis-and-Design/p/MBS_9469406_used
- Kindle edition: <https://www.amazon.com/Modern-Systems-Analysis-Design-Valacich-ebook/dp/B0CXF1Q6WY/>

Other Course Materials

- **The Design of Everyday Things: Revised and Expanded Edition** (2013), Don Norman, Basic Books. ISBN-10: 9780465050659 / ISBN-13: 978-0465050659
Audiobook: <https://learning.oreilly.com/videos/the-design-of/9781452624129/>
- Discord: <https://discord.com/download>

- *Recommended* - Obsidian: <https://obsidian.md/>
- *Recommended*: USB and/or cloud based backups of your course materials from a vendor of your choice (OneDrive, Google Drive, iCloud, Dropbox, etc.), as hardware is never 100% reliable.

Description

Information systems integration and modeling. Analysis of dynamic information flow, functional requirements, and system design in theory and practice.

Catalog Description

This course is a capstone course designed to integrate the content of other courses and help students acquire knowledge and skills necessary to advance in an IT career path. Review of 1590, 2600, 2663, 3704, 3714, 3722, 3723 (3782) and 3774. This course will include organization paradigms, system evaluation and planning, interview techniques, questionnaire composition, file design and ERDs, UML/DFDs, Logical Structures (Structured English, Decision Trees, and Decision Tables), Core Business, CSF, RFPs, Story Boards, Business Rules, What-If Analysis, and System Modeling. Database Design and Network Topology will be covered in class. You are expected to consult previous texts or online material to review other subjects.

Learning Objectives

- Develop understanding of value of systems thinking in planning and design of organizational information systems; ability to apply a design to a real-world situation (IT)
- Apply project management methodology to planning and design issues
- Synthesize results of information gathering when analyzing information system needs and designing new systems
- Prepare project proposals and make oral presentations
- Develop ability to articulate relationship between an organization-wide information system and business processes
- Create an Information System Design
- Develop an SDLC (or alternative SA) document and write project proposals
- Understanding of UX design principles informed by Behavioral Psychology

General Education, Program, or Degree Learning Outcomes/Objectives

Plan, Develop, Design IT Projects and Solutions.

How to Succeed in This Course

The most accurate predictor of success in this course is *consistent attendance*. The lecture portion of this course includes time reserved for questions and answers, and you are encouraged to ask clarifying questions so that you can put the course material into practical use in the projects. Group Projects done asynchronously with Discord using the private channel are often very successful (one such past group had over 1000 messages in the chat).

Technology

To successfully complete this course, you will need consistent access to a Mac, Windows, or Linux desktop or laptop computer. Please let me know on the first day of class if you do not have the appropriate access to technology, the [Penguin Plugin Loaner Program](#) is available. I can also recommend some very low-cost options that will be adequate to get you through a 4-year degree program and beyond. We will work together to make sure technology is not a barrier to your success in this course.

The [course website](#) and Discord server will be regularly used to share important course information. I do not use nor require the Blackboard LMS in this course. Grades will be distributed in-person during class so that you may ask clarifying questions if you don't receive full credit on any item.

Understanding Early Alerts

In all your classes, your professors may create a “flag” related to your performance in a class. Professors may indicate that you are having difficulty understanding course material, not attending class, missing assignments, etc. These alerts do NOT stay on a permanent record, and they are NOT used in any way as a penalty against you. The alerts are used to help you find a solution that is realistic and helps you succeed.

How to Get Help

YSU is committed to your success. As a student you have access to several resources that may be instrumental in helping you succeed in this course and others. Please do not hesitate to utilize any of these [free support services](#) to support your academic success, physical and mental health, registration, billing, and financial aid, assistance for student parents—all to help you navigate your time as a YSU student.

Attendance Expectations

Class attendance adheres to the YSU [Class Attendance Policy](#) and the [Religious Accommodations of Students Policy](#).

Grading

Your grade is determined from the following sources:

- **Discussion and participation** (10%) – note that you cannot *participate* if you do not *attend* regularly.
- **Quizzes** (16%) – quizzes given at regular intervals and assess your understanding of the materials. The lowest mark will be dropped.
- **Projects** (24%) – 4 projects to apply what you have learned.
- **Midterm Exam** (20%) – Wednesday, Feb 18th
- **Final Project** (comprehensive, 30%) – **submissions due via email/Discord Friday, May 1st 10:29am, all students are required to develop and submit the final project to pass the course.**

Grading Scale

Weighted Average	Letter Grade
90%-100%	A
80%-89%	B
70%-79%	C
60%-69%	D
< 59%	F

Please see the [YSU Grading System](#), which includes information about grading options, withdrawals, and repetition of courses.

Assignments and Projects

In general, smaller assignments will be handed out on a Wednesday, and will be due the following Tuesday. These will be relatively simple exercises meant to give you practice with the current topic. There will also occasionally be larger projects meant to give you experience in designing and developing significant programs based on the principles introduced earlier in the course.

Grading of the assignments will only partially be based on their correctness. Grades will also be based on clarity of thought, creative problem-solving and general cleverness in design approaches. I give ample opportunity to earn bonus points for inclusion of thoroughness and extra features.

*Late assignments will be penalized at 10% per working day, and no assignments will be accepted after solutions are posted (generally one week after the due date). Work on these assignments **must be your own** (see below on academic honesty for more details).*

Lectures/Labs

Each class day will consist of a lecture section in Meshel 338. We'll iteratively build on your understanding, so it is important to attend regularly and not get behind when concepts are explained. Some class time may be used for short real-world examples or demonstrations, and discussions related to the current topic. The remaining time may be spent on Q&A and getting help with the homework assignments. However, note that you will be expected to do most of the work on the assignments outside of class/lab time. For specific advice on installing and using specific tools on your platform or OS, please see me during office hours and I will do my best to guide you to the correct resources.

Faculty Evaluations

Any course is only as good as the instructor's ability to engage with students and make the material meaningful and relevant to your current and future endeavors. Your insights are valuable; in order to continuously improve and fine tune the learning activities and address the differences in student learning styles, course evaluations are typically made available after Midterm Exams via Web link, watch your student email for further details. I will remind you to take the opportunity to provide feedback at the conclusion of the course.

Honors Contracts

This class is eligible for an honors contract, if you are interested in receiving honors credit for this course, please inquire as soon as possible to discuss possible supplemental projects/papers that will qualify.

Important Dates for Spring 2026 Semester

01/05/2026	Spring Term BEGINS
01/12/2026	Last day to add or change a grading option (grade, C/NC, AU)
01/18/2026	Last day to withdraw and receive 100% refund or reduction in charges
01/19/2026	UNIVERSITY CLOSED (MLK Day: Monday, January 19 th)
03/02/2026	Spring Break BEGINS - No classes, offices open
03/08/2026	Spring Break ENDS - classes resume Monday, March 9 th
03/18/2026	Last day to withdraw with a grade of "W"
04/27/2026	Final Exam period - Friday May 1 st , 1030-1230 (10:30am-12:30pm)
05/02/2026	Spring Term ENDS
05/04/2026	Course grades posted to Penguin Portal
09/01/2026	Last day for completing an "I" grade for Spring 2026

Tentative Course Calendar

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.

Week	Lecture Topics
1 (1/4)	Syllabus, Review of Concepts, Introduction to Systems Analysis The Systems Development Environment (<i>reading</i> : Chapter 1)
2 (1/11)	The Origins of Software (<i>reading</i> : Chapter 2)
3 (1/18)	1/19 Martin Luther King Jr. Day - University Closed, NO CLASS Managing the Information Systems Project (<i>reading</i> : Chapter 3) Project 1 assigned - due: 2/1 11:59pm
4 (1/25)	Identifying and Selecting Systems Development Projects (<i>reading</i> : Chapter 4)
5 (2/1)	Initiating and Planning Systems Development Projects (<i>reading</i> : Chapter 5) Project 1 Presentations
6 (2/8)	Determining System Requirements (<i>reading</i> : Chapter 6) Project 2 assigned - due: 2/22 11:59pm
7 (2/15)	Structuring System Process Requirements (<i>reading</i> : Chapter 7) Midterm Exam Wednesday, Feb 18th
8 (2/22)	Structuring System Data Requirements (<i>reading</i> : Chapter 8) Project 2 Presentations
9 (3/1)	3/2-3/8 Spring Break - University Open, NO CLASS
10 (3/8)	Designing Databases (<i>reading</i> : Chapter 9) Project 3 assigned - due: 3/29 11:59pm
11 (3/15)	Designing Forms and Reports (<i>reading</i> : Chapter 10)
12 (3/22)	System Implementation and Maintenance (<i>reading</i> : Chapter 12)
13 (3/29)	Designing Interfaces and Dialogues (<i>reading</i> : Chapter 11) Project 3 Presentations, Project 4 assigned - due: 4/19 11:59pm
14 (4/5)	The Design of Everyday Things (Norman)
15 (4/12)	The Design of Everyday Things (Norman)
16 (4/19)	Project 4 Presentations
17 (4/26)	Finals Week - https://ysu.edu/registrars-office/final-exam-schedule Final Exam Period – Friday, May 1st (5/1) 1030-1230 Final Project Presentations (recorded)

General Course Policies and Guidelines

Assignment Submission

Most assignments that you write for the class will be submitted via email. When submitting assignments, do the following:

- **Submit to the instructor's preferred, correct email address**, as above (Gmail).
- Include your name(s), course number, and the title of the assignment in the subject header.
- **Attach** all artifacts/documents. If there are issues with the size/number of attachments, please use a zip utility to compress into a single file. Files should be named in the general form of: <banner_username>_assignmentName.zip; this should be specified in the comments of the assignment specifications provided.
- Do **not** send file sharing links in place of proper file attachments. This adds several steps to the grading process.

*Assignments that do not follow this protocol **will not be scored**, and you will receive zero credit unless resubmitted properly.*

Due Dates and Late Assignments

An assignment (including programs and projects) is late if it is not IN MY POSSESSION (via email) by midnight on the due date. Late assignments *may* be penalized at 20% per day late (the weekend counts as one day), but no credit will be given for assignments turned in after solutions have been discussed or handed out.

Attendance Expectations

Students are expected to attend all class sessions and participate in class activities. Attendance will be periodically recorded for administrative purposes and will count toward 10% of the overall final grade. Missing class is not an acceptable excuse for failure to complete required material.

The [YSU Attendance Policy](#) addresses excused absences for participation in university-sponsored events, government-related activities, religious observances, death of a family member, and documented personal illness.

Strictly speaking, class attendance is optional, except for students who are receiving VA benefits, or in situations (such as group meetings) where your absence would be detrimental to other students in a group. However, missing class is not an acceptable excuse for failure to complete required material on time. Every lecture will cover material related to assignments and exams, and in general the grades in programming classes are directly related to the ability to have meaningful dialogue with the instructor. Material that is presented in class will not be covered again outside of class – if you miss class, it is up to you to find out what was covered and to get the notes from someone else. *Historically, the best predictor for success in this course is **your attendance**.*

Class participation

If you do not ask questions in class, you will not get as much out of the class as you could. Your class participation will be based on the instructor's assessment of whether you are regularly involved in the class over the course of the semester.

- If you receive a failing grade in class, and have missed 25% or more of the classes, you will receive a **NAF** (Non Attendance Failure) as your final grade. This may negatively impact your future financial aid eligibility.

Exams

Exams will cover material presented in class and corresponding required sections in the text, and will also usually relate to material covered in the homework. Makeup exams are allowed, but only for compelling and verifiable reasons. I need to be informed as soon as possible if you need to take a makeup test (ideally, before the exam is given), and I reserve the right to refuse if too much time has passed since the exam, or if no compelling reason is given.

Office Hours

The best way to get help with an assignment is to stop by my office during office hours. Many problems that you might get "stuck" on for hours upon end can usually be fixed with my help within a few short minutes.

Email

The best way to reach me with questions outside of office hours is Discord direct messages. I will attempt to answer within 48 hours (except for holidays, weekends, and breaks). Items sent to my campus email address do NOT get to all of my mobile devices, and I therefore cannot guarantee prompt responses. There are some things that you can do to help out:

- Text me or Discord DM me if you send an email to let me know you have an urgent question.
- Include your name and course number in the subject (otherwise it might not make it through the spam filters). Follow up your email with a quick text letting me know you've emailed.
- Be as specific as possible about the question or problem.
- Depending on the type of program and where I happen to be, I may not be able to help right away (my office hours are usually better for getting help); if it's a simple issue, copy-pasting me the relevant section in your Discord DM can help!

Most assignments that you write for the class will be submitted via email. When submitting assignments by email, do the same things:

- Include your name, course number, and the number of the assignment in the subject.
- Attach all documents. If there are issues with the size/number of attachments, please use a zip utility to compress the collection into a single file.

University Policies

[University policies](#) can be found online and provide you guidance on your rights as a student in this course.

The links below take you directly to a specific policy. Should you have any questions about a policy, please do not hesitate to contact me using the information at the top of the syllabus.

- [Academic Grievances and Complaints](#)
- [Academic Integrity/Honesty](#)
- [Class Attendance Policy](#)
- [Honors Contracts](#)
- [Incomplete Grade Policy](#)
- [Religious Accommodation of Students](#)
- [Statement of Non-Discrimination from the University](#)
- [Student Accessibility](#)

Mandatory Statement of Non-Discrimination from the University

Youngstown State University does not discriminate on the basis of race, color, national origin, sex, sexual orientation, gender identity and/or expression, disability, age, religion, or veteran/military status in its programs or activities. Please visit the [Equal Opportunity and Policy Development & Title IX website](#) for contact information for persons designated to handle questions about this policy.

Students with Disabilities

In accordance with University procedures, if you have a documented disability and require accommodations to obtain equal access in this course, please contact me privately to discuss your specific needs. You must be registered with the [Accessibility Services](#), located at DeBartolo Hall, room 357, and provide a letter of accommodation to verify your eligibility at the beginning of the semester or when given an assignment for which an accommodation is required. You can reach Accessibility Services at 330-941-1372.

Academic Support

The [Marion G. Resch Academic Success Center](#) is a resource on Campus established to help students successfully complete their university experience. Please phone (330) 941-3538 or visit the Center for assistance in tutoring or for individualized assistance with social and academic success. Tutoring support is located in Maag Library, room 306. For additional support, see this list of [Student Resources](#).

Ethical/Academic Standards

AI Use is Freely Permitted

Students are allowed to use generative artificial intelligence such as ChatGPT for all activities, homework, and assignments related to this course; citation rules for the course's discipline should be followed.

Quizzes and examinations are always “closed book” with no additional tools or references, and rely on your own personal knowledge of the material, thus are the exception to this general rule.

Academic Honesty

As outlined in [The Student Code of Conduct](#), all forms of academic dishonesty are prohibited at Youngstown State. This includes plagiarism, the unauthorized use of tools (including Generative AI) or notes in taking tests or completing assignments, fabrication of data or information used for an assignment, working with others without permission from the instructor, and more. A student who is believed to have violated the academic integrity policy will meet with the instructor to discuss the allegations. The student may accept responsibility for the violation and any sanctions selected by the instructor, or they have the right to ask for a hearing before a hearing panel. The full Academic Integrity policy can be found in Article V of The Student Code of Conduct, while further information on University procedures for alleged academic integrity violations can be found in Article V.

Academic honesty is both expected and required. HELPING fellow students is acceptable, and is actually a very good way to learn the material. COPYING is NOT acceptable, laughably easy to detect, and will result in loss of credit for the assignment, and possibly failure of the course. Follow these guidelines:

- If you receive help with an assignment, then you must acknowledge that help in the documentation (your grade will not be affected unless otherwise announced).
- Copying solutions from the Web, especially from notorious “do my work for a bounty” sites, has been detected in the past and dealt with appropriately under this policy. Yes, I too can use online search tools - just as well as anyone in this field, but probably better than most!
- *The bottom line: if you are not sure how to approach a problem, or are stuck at some point, PLEASE SEE ME FIRST FOR HELP.*

Unless specified otherwise, all written exams are closed book (this includes notes, smartphones, etc.). Any suspected cheating on an exam will result in failure for the course.

I strongly encourage you to discuss any topic and/or share ideas with your peers. That's the way good science ought to happen. As a professional though, you should acknowledge any significant discussions in your homework/projects. However, when the time comes to write the homework, such discussions are no longer appropriate. The solution must be your own inspiration (although you may ask the instructor for help). DO NOT COPY ANOTHER PERSON'S HOMEWORK UNDER ANY CIRCUMSTANCES. To do so is a clear violation of ethical/academic standards and will result in loss of credit for any assignment and possible course failure.

For further information, see the section on Academic Dishonesty in the *Undergraduate Bulletin*. See also the *CSIS Acceptable Use Policy for Lab Standards*.

Classroom Etiquette

Your fellow students deserve an environment without disruptions to learning. Examples include:

- Conversing during lecture (I cannot, and will not, talk over you)
- Printing in labs during lectures
- Texting/doomscrolling social media/Web surfing during lecture
- Cell phone use (please change ringtones to silent, and exit the classroom for emergency calls)
- Eating or drinking (prohibited in our labs)
- Exhibiting signs you are sick (please stay home for our collective well-being)

If you engage in these activities repetitively, you will be kindly asked to leave.

On the other hand, asking questions during lectures is very strongly encouraged. I frequently pause to confirm that everyone understands the concepts being discussed. If you are confused about a topic, chances are that many other people are as well! If I do not provide an opportune time for you to ask your question, **please feel free to interrupt me** before I continue.

Incomplete Grades

Incomplete grades are strongly discouraged. However, an incomplete grade may be assigned under the following conditions:

- The student must request in writing that an incomplete grade be assigned.
- The student's previous work in the course must have been satisfactory.
- The reason(s) must be beyond the student's control, and deemed justifiable by the instructor.

Insufficient time is NOT a justification for an incomplete. Also note that all incompletes must be made up within two months; otherwise, they automatically revert to an F.

Airborne Pathogen Safety Statement

If you are feeling unwell, I strongly encourage you to stay home, and get notes from a classmate. If you are observably exhibiting symptoms of airborne viruses (such as repeated coughing and/or sneezing), out of consideration for your peers, I will kindly ask you to leave class and go home to recover. I strongly recommend visiting [Wick Primary Care](#), as many services are included in your tuition. As attendance is not strictly mandatory, I do not require a physician's note, except in cases where an exam or project deadline would be missed without making a prior arrangement to fulfill these obligations. As long as I have prior notice, that will not be necessary – and you will find that I am quite reasonable and flexible with scheduling, so that you can fulfill the requirements of the course.

*The Instructor reserves the right to revise the above flexibly and with notice,
by mutual agreement, based on their own discretion.*