

## CIT 21300: Systems Analysis and Design INFO-C 450: Systems Analysis

### The Least You Need To Know

#### Wait - What Class is This?

This is a jointly-offered course between the Computer and Information Technology Program at IUPUI and the IU Online Informatics BS program. *Hi, IU Online folks! Welcome to IUPUI (for at least a little bit.)*

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**INDIANA UNIVERSITY**

#### When Is Class?

Class meets 100% online. See the Syllabus tool in Canvas for office hours and contact information.

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#### What's a Typical Week Like?

This course follows a typical schedule, with most course materials posted on Thursdays. Depending on the week, there may be small exercises or discussions due mid-week, with most homework due during the weekend.

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#### Who's my Instructor?

My name is Rob Elliott, and I am a Senior Lecturer of Computer and Information Technology at IUPUI. You'll learn more about me in the Discussions and through posted videos and resources.

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#### Where Are My Class Resources?

The three most important Canvas LMS tools are: Syllabus, Assignments, and Pages

- **Modules:** There is a Page for each week of the course. All videos, PowerPoints, sample files, and resource links will be posted here.
  - **Assignments:** All of your Assignments are posted here and should be submitted via Canvas. (*No late assignment submissions!* See the Late Policy in the Syllabus for more information.)
  - **Syllabus:** Changes will be made if necessary, and students will be emailed accordingly.
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## How Many Points Possible Are There in the Course?

Your course grade is calculated based on Assignments provided via Canvas as well as any discussion exercises or quizzes that are given.

[You can see the proposed point breakdown for this course here.](#)

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## Is There a Final Exam?

No.

Students will complete a Final Project over the last few weeks of the semester but there will be no scheduled Final Exam.

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## Course Resources

**Textbooks** The **required** textbooks for this course are:

The Object-Oriented Thought Process ([Amazon link](#))  
Paperback: 360 pages  
Publisher: Addison-Wesley Professional; **5th** edition  
ISBN-13: 978-0135181966

Learning UML 2.0 ([Amazon link](#))  
By Russ Miles, Kim Hamilton  
Publisher: O'Reilly Media  
ISBN: 978-0-596-00982-3

We will also use select resources from around the web which will be provided to you.

**Software** Most of your coursework will involve documents and drawings.

At a minimum, students will need the following:

- Adobe Acrobat Reader or equivalent PDF reader
- An active IU/IUPUI email address

We will also introduce an online drawing tool that is available for free to students to use.

## Course Goals and Requirements

**Course Objectives** This class provides a high-level overview for a large number of topics. However, you will use the knowledge you have gained in each module on an ongoing basis throughout this course as well as subsequent systems analysis courses.

By the end of the semester, each student should be able to:

- Learn the terminology of systems analysis and design
- Apply the object-oriented approach to systems development

- Demonstrate and develop problem-solving skills in a team environment
- Become functionally knowledgeable of UML modeling techniques and tools
- Develop and document a web-based prototype

**Prerequisites** The official prerequisites for this course are CIT 14000 or CIT 21500. Students must also have had 21400 or be currently enrolled in it.

- ABET Outcomes**
- Analyze user needs and identify the computing requirements appropriate to an IT solution.
  - Plan, design, implement, and evaluate IT-based projects and systems to meet desired needs. Function effectively on teams to accomplish a common goal.
  - Communicate effectively with a wide range of audiences.
  - Use current technical concepts, techniques and practices in the information technologies within the student's area of expertise.

## Course Outline

**Course Modules** There are five units in this course. **This schedule is subject to change if necessary!**

- Unit 01: Getting Started
  - Intro to Systems Analysis and Design
- Unit 02: Decomposing a System
  - Abstraction and Finding Classes
  - Interactions Between Classes
  - Functional Modeling
- Unit 03: Traditional Project Documentation
  - Gathering Requirements
  - Discovering Classes and Use Cases
  - Modeling Processes w/ Activity Diagrams
  - Revising Class Diagrams via Sequence Diagrams
- Unit 04: Introduction to Agile Development

- Agile Frameworks and Teams
- User Stories
- Unit 05: Final Project - Rapid Application Development
  - Using a Low-Code Development Platform
  - Building an App in Multiple Sprints

**Graded Assessments** Students will demonstrate understanding in a variety of ways. **These point totals and distributions are subject to change!**

Assessment Type	Total Points
Discussions & Group Activities	52
Prep & Practice Exercises	30
Assignments	195
Final Project	75
<b>Total Points Possible</b>	
<b>352</b>	

## Grading

**CIT Grade Standards** **A**

Represents the highest grade possible and indicates outstanding achievement. This grade is not automatically given to the top student performance but instead indicates student work which demonstrates complete mastery of course learning objectives or evinces a level of creativity or originality which far exceeds course expectations. The grade indicates the student works independently and with strong initiative, seeking knowledge outside the normal framework of the course.

**B**

Represents achievement considerably above expectations. Student performance demonstrates a thorough understanding of course learning objectives and a high level of creativity or originality.

**C**

Student performance meets designated course requirements and demonstrates an understanding of the course material and attainment of the course learning objectives. This is the grade that may be expected of a student who puts forth a reasonable amount of time and effort and completes all requirements.

#### **D**

This grade denotes substandard work and indicates incomplete and inadequate understanding of the course learning objectives. It indicates work which may not satisfy all requirements.

#### **F**

This grade indicates serious deficiency in understanding course learning objectives and failure to complete the requirements of the course.

**Assessments** This course uses a variety of resources for instruction. Required readings will be posted in the Modules tool. The work for each week of the course will consist of Reading Material and a combination of any of the following: Discussion, a short Quiz, an Exercise, and/or an Assignment. There will also be a Final Project that will provide you the opportunity to utilize all of the techniques you have learned throughout the semester.

There is not a final exam for this course.

**Quizzes** are short, timed interactions that will allow you to demonstrate your knowledge of the reading material. Most quizzes will consist of short answer, multiple choice, and true/false questions.

**Quizzes can be worth anywhere from 15 – 40 points.**

**Discussions** will be held in the course's online forum tool. When scheduled, a number of discussion questions will be posted to the Forum and students will be expected to respond to one of the questions OR significantly contribute to a discussion initiated by another student. **Discussions are worth 5 points.**

**Exercises** will display/develop your ability to apply the concepts introduced in each Chapter. The purpose of the Exercises is to allow you to test new techniques outside of the scope of the ongoing project you will develop in your Assignments.

**Exercises are worth 5-10 points.**

**Assignments** will allow you to work on larger projects over the course of the semester.

**Assignments are worth 25 points.**

The **Final Project** for this course will test all of the skills you have acquired throughout the course to-date. More details about the final project will be posted later in the semester.

**The Final Project is worth at least 75 points.**

**Late Policy** Late assessments without prior authorization **will not** be accepted. Students who need to submit an assessment later than the due date must first receive permission from the instructor.

<b>Grading Scale</b>	<b>Percentage</b>	<b>Letter Grade</b>
	100% +	A+
	99 – 93%	A
	92 – 90	A-
	89 – 88	B+
	87 – 83	B
	82 – 80	B-
	79 – 78	C+
	77 – 73	C
	72 – 70	C-
	69 – 60	D
	< 60	F

**Extra Credit** 5 bonus points are available within many Assignments for exceptional work. These points will be awarded at my discretion. "Exceptional Work" is defined as adding additional functionality, superior design work, and overall enthusiasm above and beyond the scope of the Assignment.

**Administrative Withdrawal** A basic requirement of this course is that you will participate in all class meetings and conscientiously complete all required course activities and/or assignments. Keep in touch with me if you are unable to attend, participate, or complete an assignment on time. If you miss more than half of the required activities within the first 25% of the course without contacting me, you may be administratively withdrawn from this course. Example: our course involves submitting an assignment approximately once per week. If you miss two assignments within the first four weeks of the course, you may be withdrawn. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and if you are administratively withdrawn from the course you will not be eligible for a tuition refund.

If you have questions about the administrative withdrawal policy at any point during the semester, please contact me.

**Academic Integrity Cheating is absolutely not tolerated at IUPUI!**

The IUPUI Code of Ethics is based on the need for trust in an academic community. IUPUI's system is developed by and maintained for the welfare of its students, and all students should make sure that they read and understand the provisions outlined in the Student Handbook. The code, which is available in the Office of the Dean of Students and in all school office, spells out what constitutes unacceptable behavior and the procedures to be followed when there are alleged cases of misconduct. The dean of students also has some very brief pamphlets on key areas of the code. The link that follows is not the code but rather abbreviated and paraphrased statements on key elements of the code: academic and personal misconduct as well as a section on what students should do if they believe that other students, faculty, or staff have violated their rights. The code also explains the procedures employed and how students may appeal decisions.

For more information, consult the Code of Student Rights, Responsibilities, and Conduct as well as brochures located in the Office of the Dean of Students.

<http://studentaffairs.iupui.edu/student-rights/student-code/>

**What Constitutes Cheating?**

Giving another student access to your computer account, or negligently permitting another student to access your computer account constitutes cheating on your part if that other student copies any files that become implicated in a cheating case. Protect your account as if your academic career depends on it!

Giving another student your code "just to look at" has resulted in serious problems for both students in the past-even with the best of intentions. Do not give your code or Assignments to other students. Note: When creating graphics or Web sites, treat Web content as you would treat content from a published article or book. Please see below for what is considered "Acceptable" and "Cheating".

<b>Acceptable</b>	<b>Cheating</b>
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Including a brief quote from a web page with the source cited.	Copying entire pages or paragraphs and republishing it as your own.
Using graphics from a free clip art or graphic site, or within the bounds of Copyright "Fair Use" permission.	Using someone else's graphics without permission.
Discussing an assignment with another student.	Copying another student's work.
Looking at code samples to help you figure out what to do.	Copying entire code segments and submitting it as your own.

If you are confused as to the difference between helping each other (which is encouraged) and plagiarism (which will not be tolerated), please ask me.

## Campus Services

### TCM Writing Center

Need or want help with your writing or speaking assignments? The TCM Writing Center, located in ET 232, offers free tutoring to E&T students on their writing and speaking needs. I encourage you to use the Writing Center's services. You can sign up for a tutoring session by going to <https://www.et.iupui.edu/TCMScheduling/>. If the tutor is not working with another student, walk-ins are welcome. Call 317-278-1311 if you have questions or would like more information.

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### Adaptive Educational Services

Adaptive Educational Services (AES) provides accommodations for students with special challenges or disabilities that may affect their classroom performance. If you are eligible you may register with AES by calling 274-3241. Visit <http://www.iupui.edu/~divrsity/aes/> for more information.

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### Student Advocate Office

The Student Advocate Office will answer your questions, direct you to the appropriate departments and people, familiarize you with university policies and procedures, and give you guidance as you look at ways to solve problems and make choices. For more information, visit them in UC002 or contact them at 278-7594, at [stadvoc@iupui.edu](mailto:stadvoc@iupui.edu), or at <http://www.life.iupui.edu/advocate/>

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### **Counseling and Psychological Services**

If you find that life stressors are interfering with your academic or personal success, consider contacting Counseling and Psychological Services (CAPS). All IUPUI students are eligible for counseling services at minimal fees. CAPS also performs evaluations for learning disorders and ADHD; fees are charged for testing. CAPS is located in Union Building (UN) 418. For more information, see the CAPS websites at <http://life.iupui.edu/caps/> and <http://life.iupui.edu/caps/counseling.html>, or call them at 274-2548.

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### **Disruptive Students**

Disruptive students may face disciplinary action according to University policy. Visit the Student Code of Conduct page at [http://www.iupui.edu/code/#P2\\_H](http://www.iupui.edu/code/#P2_H) for more information.

### **Sexual Misconduct**

What you should know about sexual misconduct: IU does not tolerate acts of sexual misconduct, including sexual harassment and all forms of sexual violence.

If you have experienced sexual misconduct, or know someone who has, the University can help. It is important to know that federal regulations and University policy require faculty to promptly report complaints of potential sexual misconduct known to them to their campus Deputy Title IX Coordinator(s) to ensure that appropriate measures are taken and resources are made available.

The University will work with you to protect your privacy by sharing information with only those that need to know to ensure the University can respond and assist.

If you are seeking help and would like to speak to someone confidentially, you can make an appointment with a Mental Health Counselor on campus (contact information available at <http://stopsexualviolence.iu.edu/employee/confidential.html>). Find more information about sexual violence, including campus and community resources at <http://stopsexualviolence.iu.edu/>.