CS 3354: Object-Oriented Design and Programming

Spring 2020

updated Jan 17 2020

Instructor	Dr. Jelena Tešić (pronounced as Yeh-LE-nah TE-shich)
Contact	**jtesic@txstate.edu** (office x5-3436)
Faculty Profile	https://cs.txstate.edu/accounts/profiles/j_t463/
Student Hours	Monday 11:30 am – 1 pm, Wed 9:30 am – 11 am @ Comal 307B
TA	Sean Simmons, sws43@txstate.edu
Student Hours	email him to set appt or to get help with git, Canvas, zybooks, coding
Class Meets	Mon Wed 2:00 p.m. - 3:20 p.m. @ IGRM 3104
Open Labs	DERR 231 (Linux Lab) MCS 590 (Windows Lab)
Prerequisites	Grade of C or better in CS 2308

Course Material

 Required course material is online textbook w Labs:

1. Create an account at learn.zybooks.com using NetID@txstate.edu, no alias
2. Enter zyBook code **TXSTATECS3354TesicSpring2020** to subscribe
3. A subscription is $77. Students may begin subscribing on Jan 07, 2020 and the cutoff to subscribe is Apr 29, 2020. Subscriptions will last until May 27, 2020.

Additional class slides, notes, and source code posted in

Course Description

The course covers object-oriented design principles and programming for students ***with prior*** programming experience. The topics include inheritance and polymorphism, object-oriented design process, UML diagrams, design patterns, exception handling and multithreading. Students will design and implement programs in Java.

Course Objectives

 At the end of the semester the student should be able to:
- Design, implement, test, and debug programs in an object-oriented programming language: Java.
- Describe the unique features of Java.
- Read Write Java programs that use generic types and data types from the Java Collections library.
- Describe the concepts of inheritance and polymorphism and incorporate them into Java programs using abstract classes and interfaces.
- Describe how the class mechanism supports encapsulation, information hiding, and interfaces.
- Develop programs using multiple classes and composition.
- Read and write Java programs that use persistence (serializable objects).
- Describe and apply the Object-oriented design process to design a Java program.
- Describe the semantics of exception handling in Java, and use it to write reliable Java code.
- Read, design, and draw the following models using the Unified Modeling Language (UML)
- Write Java code that implements the designs specified by UML diagrams.
- Describe the following Design Patterns and create UML designs using them and implement the

designs in Java programs.
- Determine the proper design pattern for a given problem.
- Use Javadoc to specify the interface (API) of Java objects.
- Understand and apply event-driven programming principles by developing programs with a graphical user interface, using objects from the Java Swing library.
- Read and write Java programs that use threads to implement concurrency.

What is expected of student registered for CS 3354 in Spring 2020?

Students are expected to:
- **Attend instructional meetings** and do not distract or disrupt instructor and students during class
- **Weekly check the updates posted** on
    a. zyBooks.com - participation and HW deadlines
    b. canvas.txstate.edu - other deadlines and general class info
    c. git.txstate.edu/CS3354 - new information, material and code added weekly
- **Complete participation on zyBooks**
- **Submit participation, homework, and coding projects on time**
- Group coding project means the entire group gets an identical grade score. Each student in the group MUST check in the code to its individual to its git.txstate.edu repository to receive that grade.
- Check grading, and grade grievance policy
- Take midterm and final exam in the classroom during the exam time
- Clearly communicate with the instructor regarding and issues, delays or unforeseen circumstances in timely manner. Emailing is the fastest way to reach the instructor.

Grading

What	Grade Percentage	Date (if applicable)
Active Learning in the Classroom	5%	Attendance, active responses
Participation assignments in zyBooks (labeled Participation #x)	10%	Weekly posted on zybooks. due Mon 2 p.m.
Homework assignments (labeled HW #x)	24%	Weekly posted on zybooks. due Wed 2 p.m.
Three Coding Projects	21%	git.txstate.edu + announced on canvas
Midterm	15%	**Mon Mar 9 2 p.m. – 3:20 p.m.**
Final	25%	**Monday May 11 2:00 p.m. – 4:30 p.m.**

Assignments

zyBook: check it regularly – Texas State is in process of integrating zyBooks with Canvas, participation and HW deadlines do not appear.
- **Participation assignments:** help students catch up with class pace, get introduced to the material (pre-reading), and revisit programming concepts that are needed to follow the lectures. Each participation assignments is ~ 1% of the final grade point.
- **Homework assignments:** test students on material cover in-depth in class. Each homework assignment is ~3% of the final grade point.
- Chapters and sections marked Optional: additional practice Labs available for students that want to polish their programming skills in Java. We will not have time to cover examples in the class.
- Three programming assignments will be announced using TRACS Assignment Tool.

Three coding projects:
- Advertised on canvas.txstate.edu and git.txstate.edu/CS3354/
- submitted to git.txstate.edu/CS3354/NetID.git repository.
- All three projects need to be submitted by each individual student
  - Students can work in pairs, and they should submit the project naming the partner
  - Both students need to submit the project
- **There is no project deadline extension: if assignments are not submitted in time, they are not accepted. Due date for all 3 coding projects is Tuesday 11:55 pm.**

Schedule

	Lecture	Assignment
Jan 22	01 Introduction	
Jan 27	02 Java Programming 1	Participation #1;
Jan 29	03 Java Programming 2 (git cmd tutorial)	HW #1 due
Feb 3	04 Introduction to Objects and Methods	Participation #2;
Feb 5	05 Data Types Loops	HW #2 due
Feb 10	06 Input Output Exceptions	Participation #3 due
Feb 12	07 Classes	HW #3 due
Feb 17	**08 IDE, git, cmd tutorial**	Participation #4;
Feb 19	09 Inheritance	HW #4 due
Feb 24	10 Object Oriented 1	Participation #5;
Feb 26	11 Object Oriented 2	HW #5 due
Mar 2	12 Collections and Generics	**Coding Project #1 due Mar 3**
Mar 4	13 Review	
Mar 9	**14 Midterm**	
Mar 11	15 JUnit and Star UML Tutorial	
Mar 23	16 UML 1	Participation #6;
Mar 25	17 UML 2	HW #6 due
Mar 30	18 UML/ GUI	Participation #7;
Apr 1	19 Java GUI	HW #7 due
Apr 6	20 Java GUI + Threads	**Coding Project #2 due Apr 7**
Apr 8	21 Java Concurrency 1	
Apr 13	22 Java Concurrency 2	Participation #8;
Apr 15	23 Java Concurrency 2	HW #8 due
Apr 20	24 Design Patterns 1	Participation #9;
Apr 22	25 Design Patterns 2	Quiz;
Apr 27	26 Design Patterns 3	**Coding Project #3 due Apr 28**
Apr 29	27 Java Object Model Summary	Quiz;
May 4	28 Review	Participation #10;
May 11	**Final Exam 2-4:30 pm**	

Policies

Grade Grievance Policy: If a student believes a mistake has been made in grading an assignment, the student has one week after an assignment is returned to resubmit an assignment for re-grading if they

believe there is an error.

Drop Policy Students will not be automatically dropped for non-attendance: if you are planning to drop the class or withdraw from the class, follow the instructions listed on registrar's web site: **http://www.registrar.txstate.edu/registration/drop-a-class.html** It is student's responsibility to be familiar with the University Policy on dropping classes as described in the catalog and the TXSTATE website (see), to observe relevant deadlines, and to follow proper procedures for dropping classes.

Incomplete Policy Computer Science department has a strict policy regarding 'Incomplete grade'. It must be approved by the chairman and thus an 'Incomplete grade' will only be granted under unexpected and truly severe situations, which must be supported by some official documents.

Makeup Policy zybooks.com participation cannot be made up. Three coding projects **cannot** be made up. Midterm exam **cannot** be made up. Final exam may be made up in exceptional circumstances, with approval from the instructor.

E-mail Policy: During the work week, instructor will respond to personal emails during working hours, within 24-hour window. Instructor will review communication over the weekend but will respond on Monday to most situations. If you need to reach me by email, please use the subject line: Your Name, Course Name/Number, Topic. Please allow a full 24 hours before emailing me again about the same question or issue, and on Monday for inquiries sent over the weekend.

Extra Credit Policy: There is no extra credit or make up assignment available for this class.

Plagiarism Policy: Except where explicitly and specially allowed (such as group project), all work submitted in class is expected to be your individual work. Plagiarism will not be tolerated and if detected will result in an automatic 'F' grade. Please refer to http://www.txstate.edu/effective/upps/upps-07-10-01.html for Texas State's Honor Code.

- zyBooks has a similarity checking feature (SimChecker) as part of our zyLabs analytics. SimChecker produces a comparative review of completed lab coding assignments and identifies those with strong coding similarities among students in your course as a useful check on plagiarism.
- Do not copy "as is" code from the open source in your coding project: use of open source is encouraged, but personal stamp on comments classes and flow needs to be visible – penalty is 0 points for coding project.

Communication

Best way to contact the instructor is to send her an email. All announcements, resources, and updated will be posted on Canvas. We will use the Canvas for announcements, quizzes, coding projects description, discussions, and grades.

GutHub

Students will submit programming assignments through https://git.txstate.edu. Your login is your NetID. If you have questions about using git, please contact cs_helpdesk@txstate.edu. Students repository for the class is https://git.txstate.edu/CS3354/<NetID>.git. Contact us if you do not have access to it by February 1st.

Accommodations for students with disability

Any student requiring special accommodations, should inform me during **the first two weeks of classes**. The student should also contact the office of disability services at the LBJ student center. Students who qualify for extra time for exams must take their test with ATSD and must schedule their test at the same time the test is given in class.

Academic Honor Code and Conduct

You are expected to adhere to
- the University's Academic Honor Code http://www.txstate.edu/honorcodecouncil/Academic-Integrity.html
- Code of Student Conduct - http://www.dos.txstate.edu/handbook/rules/cosc.html
- Texas State Mission and Shared Values: http://universityplan2023.avpie.txstate.edu/overview/Texas-State-Mission-and-Goals.html.

Relevant Campus Resources

cs.txstate.edu -> News, Job Announcements, Lab and Tutoring Announcements (@txstCS)

Free Online Courses through LinkedIn Learning Hub: https://doit.txstate.edu/services/online-training.html

Food Insecurity: Bobcat Bounty is the first student-run, on-campus food pantry at Texas State University. It is run by students under the direction of faculty from the Food Security Learning Community in the Nutrition & Foods Program. Our goal is to decrease food insecurity by providing healthy food to the students, faculty, and administration at Texas State University. The majority of our food comes from the Hays County Food Bank, a partnership to create a grocery store style experience for clients.

https://bobcatbounty.txstate.edu/Eligibility.html

Texas State Counseling Center: Counseling Center services are free, confidential, and provided by trained professionals to currently enrolled Texas State students while classes are in session. Counseling Center Services include brief individual, group, and couples counseling, consultation and crisis response, and workshops about coping with stress and other mental health topics.

https://www.counseling.txstate.edu/

Texas State Sexual Misconduct Policy and Reporting: If you need to make a report, please contact Ameerah McBride, Title IX Coordinator at 512.245.2539 or you can file a report for someone else, anonymously, or using a pseudonym here: https://cm.maxient.com/reportingform.php?TexasStateUniv&layout_id=10
Title IX details: https://www.txstate.edu/oei/title-IX.html

Discrimination Complaints: Texas State prohibits discrimination and harassment on the basis of race, color, national origin, age, sex, religion, disability, veterans' status, sexual orientation, gender identity, or gender expression. Additionally, Texas State prohibits retaliation against a person who files a harassment or discrimination complaint, or who assists or participates in the investigation of a report. https://www.txstate.edu/oei/policies/complaints.html

Office of Student Diversity and Inclusion: https://www.sdi.txstate.edu/
Texas State Alliance: https://twitter.com/TxstAlliance
https://www.sdi.txstate.edu/Support-and-Empowerment/LGBTQIA-and-Allies.html

Full List of On-Campus Resources:
https://www.studentsuccess.txstate.edu/programs/faces/On-Campus-Resources.html

Search Student Organizations:
https://www.lbjsc.txstate.edu/soc/join/search-orgs.html