South Hills School of Business & Technology	
Course Title:	Introduction to Programming & Logic
Course Number:	CP132
Credit/Hours:	4.0 credits / 60 clock hours (20 lecture / 40 lab)
Course Length:	13 weeks
Instructor:	Nicholas Page
Instructor Email:	npage@southhills.edu
Course Schedule:	MR: 2:20PM-4:25PM | Room 12
Office Hours:	MTWR: 12:15PM-1:15PM | Room 12 T: 6PM-7:30PM | Teams
Media, Text, & Resource Requirements:	Programming Logic and Design, Comprehensive, 10th edition; Joyce Farrell. Calculator Canvas
Course Description:	This introductory course is designed to give students an understanding of the basic methods and concepts of problem-solving and applying them to a programming language. The course will focus on logic and critical thinking as it pertains to the problem-solving process. The student will be introduced to standard design tools, such as flowcharts and the UML.
Prerequisites:	None.
Course Objectives:	Upon completion of the course, students will be able to: • Basic methods and concepts of problem solving. • Use, name, and assign names to variables. • Build structured methods. • Sequences, Decisions, and Loops. • Control loops with variables, counters, and sentinel values. • Nest loops. • Set up, manipulate, and search arrays. • Program Development Cycle. • Analysis and design tools: flowcharts, pseudocode and hierarchy charts. • Object oriented programs: objects, events, methods, properties.
Course Outline:	Outline: Basic methods and concepts of problem solving. Use, name, and assign names to variables. Build structured methods Sequences, Decisions, and Loops

	Control loops with variables, counters, and sentinel values Nest Loops Set up, manipulate, and search arrays Analysis and design tools: flowcharts, pseudocode and hierarchy charts Object oriented programs: objects, events, methods, properties Project Session Course Outline may change as needed, and shall be determined by the instructor. Content shall not change, and if so, students shall be given prior notice. However, depending on the term, the course breakout in sessions per week may vary, but all contact hours shall be met within the term and within the class schedule parameters.
Instructional Strategies:	This course will be a combination of lecture and hands on projects. Important material from outside sources will be covered in class. Students should plan to take careful notes as not all material can be found in the readings. Discussion is encouraged as is student procured outside material relevant to topics being covered.
Instructor Responsibilities:	1. At the beginning of each course, the instructor will provide a course syllabus to each student in the class. 2. The instructor will evaluate each student's participation, assignments, assessments and projects based on the grading criteria published in the syllabus. 3. Accurate records of each student's attendance and grades will be maintained by the instructor, and retained at the campus.
Education Delivery Method:	Residential
Student to Teacher Ratio:	For information on student to teacher ratio for lecture and laboratory courses, please consult the current edition of the catalog.
Grading Requirements:	The final grade for the class will be calculated using the following weighted assignments: Quizzes 20% Daily mini-quizzes 5% Labs 25% Homework 20% Final project 25% Attendance & Professionalism 5% The South Hills School of Business & Technology grading scale will be used: A = 93-100 (4.0) C+ = 77-79 (2.3) A- = 90-92 (3.7) C = 73-76 (2.0)

	B+ = 87-89 (3.3) C- = 70-72 (1.7) B = 83-86 (3.0) D+ = 67-69 (1.3) B- = 80-82 (2.7) D = 63-66 (1.0) D- = 60-62 (0.7) F = Below 60 (0.0) **Minimum grade required = 70%**
Outside Preparation:	To adequately comprehend content and achieve success in South Hills courses, time outside of class spent reading, studying, reviewing, practicing, researching, and completing assignments is required. The number of credit hours assigned to a traditionally delivered course is defined for purposes of financial aid and is based on the following definition. In compliance with federal regulations, South Hills defines one (quarter system*) credit as either: • A minimum of 10 direct faculty instruction periods (lecture) with not less than two hours of out-of-class work per hour of lecture • Or 20 laboratory hours • Or 30 internship hours • Or an appropriate combination of all three per 10 – 12 week session * South Hills is a quarter system school, as opposed to a semester system school.
School Policies:	**<u>Attendance</u>** Students are required to contact the school if they will be absent from class. In order to assure the best possible training, prompt and regular attendance is expected. All students must be present for tests and examinations. A student should notify the school of his/her absence and the cause preferably before the first class in the morning. If the student must leave the school early or arrives late, he/she is required to sign in or out at the main desk. Repeated absences or late arrival for class will necessitate the student to meet with the school Director or Academic Affairs Officer to discuss the student's willingness to continue in the program. Excessive absences could result in dismissal. If a student is absent from school for 14 consecutive calendar days without a legitimate excuse and has not notified the school of such circumstances, the student will be withdrawn from school. **<u>Make-ups</u>** Students will not be charged any additional fees for make-up work.

Class Policies:	**<u>Attendance Policy</u>** The student is responsible for obtaining/understanding material on class days when they are absent. This can be done through contacting a classmate who was present or by contacting the instructor during his office hours. If a student misses code or special instructions shared during class due to their absence, they must obtain said code or instructions via a classmate who was present. The attendance rubric with requirements can be found on Canvas. A student who arrives late, leaves early, sleeps during class, is absent for a non-excusable reason, or generally is not attentive in class shall not receive credit for attendance. Excusable absence are defined as an absence caused by an extraordinary event. This could be, but not limited to, a funeral, marriage, illness, etc. To not lose attendance points, a form of proof is required to be shown to either your instructor or academics, who must notify your instructor. Being absent without showing a doctor's note is a non-excused absence. **<u>Make-up policy</u>** Missed quizzes cannot be made up. **<u>Deadline policy</u>** Unless explicitly stated otherwise, late labs and homework will be accepted one day after the deadline with a penalty of 30% applied to it. Any submission past the due date and time is considered one day late. **<u>Lecture Policy</u>** The instructor will not spend any extra amount of time waiting on students to copy what is written on a board, shown on a PowerPoint, or on any other assistive medium. Taking notes should be your interpretation of what you are learning and summarizing key points, not a copy of the instructor's presentation. **<u>Cellphone Policy</u>** Cellphone usage will not be permitted in the classroom during class time. When the class starts, it is expected that students will have their phone ringers off and the phone is out of sight (in a pocket, book bag, etc.). If a student must make or receive a phone call, they must leave the classroom to do so. Students that disrupt the class period due to cellphone usage will lose points as part of the "professionalism" grade section. Students that use their cellphone during class will lose points in the "Cellphone and Misc Device Usage."

	<u>Miscellaneous Device Policy</u> Miscellaneous devices such as smartwatches, headphones, wireless earbuds, or any other device which can distract the student during the course period are prohibited. Students that use any device described above during class will lose points in the "Cellphone and Misc Device Usage." (Note: Certain devices, such as laptops, are required during classes and students using them will not be penalized.) **<u>Generative AI Usage Policy</u>** Use of ChatGPT (or other similar tools that generate content) may be allowed for specific assignments. When use of generative AIs is allowed, it will be explicitly noted in the assignment directions. If you utilize a generative AI tool for any part of the assignment, you must properly cite the AI tool. When allowed for an assignment, failure to cite the AI tool is considered an academic honesty violation. If an assignment does not mention the use of AI, then it must be assumed that the use of AI tools is not allowed. In these cases, all work submitted must be your own, completed in accordance with the school's academic regulations. Should a student consult a generative AI tool when it is not allowed, the student will be in violation of the school's academic honesty policy.
Academic Honesty Policy:	It is the policy of South Hills to respond to academic honesty violations during the student's academic study with the following procedure: 1. For a first offense, a "0" grade will be given for the exam or assignment. 2. For the second offense in that class or any subsequent class, the student will be given an "F" in the particular course. NOTE: Failure of a course may lengthen the time for program completion or in the DMS, DPP, and DMP programs may result in dismissal from the program. 3. For a third offense in that class or any subsequent class, the student will automatically be expelled from school. Academic honesty violations include cheating, plagiarism, and other forms of academic dishonesty. First, second, and third offenses apply to the entirety of the student's academic study at South Hills. When a student violates the honesty policy, he/she will sign a document to acknowledge understanding of the violation and consequences. This document will be kept in the student's academic file.

Bibliography:	Various online resources Highlighted resources include:
Additional Resources:	https://www.w3schools.com/java/default.asp
Revision Date:	8/11/2024

Ssc24

Course Name: Introduction to Programming & Logic Schedule: 52 hours presented 4 hours per week x 13 weeks
Total Hours: 48 Lecture Hours: 25 Lab Hours: 23 Homework Hours: 40

Detailed Course Outline

Week Hours	Session Topic	Resources	Assignments
Week 1	**Lecture: 2 hours** Introduction to version control, GitHub, flow charts, pseudocode, Java **Lab: 2 hours** Work on setup lab. Start flowchart and pseudocode homework	Textbook, computer lab, online resources	**Homework: 3 hours** Install IntelliJ Submit setup lab via GitHub. Work on flowchart and pseudocode homework
Week 2	**Lecture: 3 hours** Introduction to binary, hexadecimal, ASCII, Unicode, Boolean algebra, data types **Lab: 1 hours** Conversion and boolean algebra homework.	Textbook, computer lab, online resources	**Homework: 2 hours** Complete flowchart and pseudocode homework Study for quiz 1 on week 1 and week 2 material
Week 3	**Lecture: 2 hours** Lecture on data types, variables, null, operators, sequences, writing code **Lab: 2 hours** Quiz 1 Lab 1	Textbook, computer lab, online resources	**Homework: 3 hours** Work on lab 1 Flowchart and pseudocode worksheet 2.
Week 4	**Lecture: 2 hours** Lecture on structure, while loops, and do while loops **Lab: 2 hours** Lab 2	Textbook, computer lab, online resources	**Homework: 3 hours** Complete lab 2. Work on and complete coding homework 1.
Week 5	**Lecture: 2 hours** Lecture on the if statement,	Textbook, computer lab, online	**Homework: 3 hours** Finish while loop labs

	switch statement, for loops and nested loops **Lab: 2 hours** Work on while loop labs	resources	
Week 6	**Lecture: 2 hours** Review of concepts **Lab: 2 hours** Quiz 2	Textbook, computer lab, online resources	**Homework: 4 hours**
Week 7	**Lecture: 2 hours** Lecture on classes and objects **Lab: 2 hours**	Textbook, computer lab, online resources	**Homework: 4 hours**
Week 8	**Lecture: 2 hours** Lecture on methods and constructors **Lab: 2 hours**	Textbook, computer lab, online resources	**Homework: 4 hours**
Week 9	**Lecture: 2 hours** Lecture on arrays and sorting. **Lab: 2 hours** Work on array labs Quiz 3	Textbook, computer lab, online resources	**Homework: 3 hours**
Week 10	**Lecture: 2 hours** Lecture on strings and ternary operators. **Lab: 2 hours**	Textbook, computer lab, online resources	**Homework: 4 hours**
Week 11	**Lecture: 2 hours** A closer look at methods and classes	Textbook, computer lab, online resources	**Homework: 4 hours**

	Lab: 2 hours		
Week 12	**Lecture: 2 hours** Lecture on creating files, reading from files, and writing to files. Introduce project. **Lab: 2 hours** Quiz 4	Textbook, computer lab, online resources	**Homework: 4 hours**
Week 13	**Lecture: 2 hours** Lecture on auxiliary topics like multidimensional arrays **Lab: 2 hours** Work on final project Extra credit quiz.	Textbook, computer lab, online resources	**Homework: 5 hours** Work on final project
			Lecture: 25 hours Lab: 23 hours Homework: 41 hours

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