CS1114 Concepts of Programming

Course Description

CS 1114. Concepts of Programming
Introduction to problem solving, algorithm development, and structured programming. Emphasis will be placed on problem solving and algorithm development. Designed as a first course for students seeking the Bachelor of Arts in Computer Science as well as non-majors. Prerequisites: MATH 1023. Fall, Spring.

Instructor

Ms. Nancy Draganjac
Office CSM 130
Office Hours 8-9 WF, 8-11 TR, other times by appointment
Phone 870-972-3978
Email ndraganjac@astate.edu

Student Learning Outcomes

Course-Level Outcomes
After completion of this course, students will have met the following student learning outcomes:

- Demonstrate experience and understanding of problem solving, algorithm development and the constructs of structured programming.
- Design elementary computer algorithms.
- Develop small programs using primitive data types, selection and repetition control structures, and functions that implement basic algorithmic designs.
- Use lists to store, process, and sort data.
- Organize and document program code.

Program-Level Outcomes

CS 1114 Concepts of Programming is linked to the following degree-level student learning outcomes for the B.S. Computer Science/B.A. Computer Science degree programs:

B.A. and B.S. Computer Science student learning outcomes directly supported by this course

- Graduates of the B.S./B.A. Computer Science degree program attain the ability to apply knowledge of computing and mathematics appropriate to the discipline.
- Graduates of the B.S./B.A. Computer Science degree program attain the ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
- Graduates of the B.S./B.A. Computer Science degree program attain the ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
- Graduates of the B.S./B.A. Computer Science degree program attain an understanding of professional, ethical, legal, security and social issues and responsibilities.
- Graduates of the B.S./B.A. Computer Science degree program attain the ability to analyze the local and global impact of computing on individuals, organizations, and society.
- Graduates of the B.S./B.A. Computer Science degree program attain recognition of the need for and an ability to engage in continuing professional development.
- Graduates of the B.S./B.A. Computer Science degree program attain the ability to use current techniques, skills, and tools necessary for computing practice.

Section Meeting Times and Locations

<table>
<thead>
<tr>
<th>CRN</th>
<th>Section</th>
<th>Day</th>
<th>Time</th>
<th>Room</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>10827</td>
<td>001</td>
<td>MWF</td>
<td>9:00 a.m. - 10:50 a.m.</td>
<td>CSM 203</td>
<td>Draganjac</td>
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Materials

References

- CS Department's Python Tutorial
- Think Python - How To Think Like A Computer Scientist (PDF), by Downey, Allen B., Green Tea Press, edited by Michael Karl
- Python Programming (PDF) (HTML)
- Python Documentation
  - Language Reference
  - Library Reference
  - Tutorial
- Non-Programmer's Tutorial for Python 3 (PDF) (HTML)
- After Hours Programming Python Tutorial (Interactive)
- Python Formatting
- Webopedia
Course Website

Homework, resources, and current scores for the course, both lecture and lab, will be posted at https://cscade.cs.astate.edu (CSCADE - pronounced cascade).

You can access this server using your Astate account.

Software

Python 3.x

http://www.python.org/downloads Python interpreter. (Use latest stable version.)

Tutoring

If you need assistance, contact your instructor or assigned lab proctor. We are happy to answer question via email or in person.

Tutoring is available via several campus resources. Check TVs in the CSM building for current schedules.

Attendance Policy

Attendance will be taken each day. Since all our activities build on previous lectures (just like a math class), attendance is crucial. For 1000 and 2000 level courses, students missing more than twice the number of weekly class meetings may be assigned a grade of F for the course; see the Arkansas State University Student Handbook’s for specific details.

If you must miss a class, it is your responsibility to learn the material that was covered in class on that day. In the event of a missed class, check the course website for any postings (notes or assignments) and obtain notes from peers; contact the proctor or course instructor if you find you need assistance.

Grades

<table>
<thead>
<tr>
<th>Grade Breakdown</th>
<th>Grading Scale</th>
<th>Late Homework Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams</td>
<td>40%</td>
<td>90 - 100</td>
</tr>
<tr>
<td>Quizzes</td>
<td>5%</td>
<td>80 - 89 B</td>
</tr>
<tr>
<td>Final Exam</td>
<td>15%</td>
<td>70 - 79 C</td>
</tr>
<tr>
<td>Homework</td>
<td>40%</td>
<td>60 - 69 D</td>
</tr>
<tr>
<td>Homework Grade Breakdown</td>
<td></td>
<td>&lt; 60 F</td>
</tr>
<tr>
<td>In-Class Programming</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Assignments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programming Assignments</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>Non-Programming Assignments</td>
<td>10%</td>
<td></td>
</tr>
</tbody>
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Plagiarism Penalty

-10% × number of offenses

Exams

All exam dates, along with the material to be covered, are listed below. No late exams.

Quizzes

Expect unannounced quizzes. Quizzes cannot be made up.

Homework

Homework will be assigned regularly to reinforce the material. Learning to program involves training yourself to express your thought process logically. It is sometimes a difficult process, and always requires practice outside class. The more you practice your skills, the better your programming skills will eventually become. (Questions based on homework may appear on exams and quizzes.) A due date and time will be posted with each assignment. Programming assignments will be graded according to the Computer Science Department Grading Criteria; each assignment will indicate the categories that will be used to grade the assignment. Programs will be graded based upon these Computer Science Department Program Guidelines. Late homework will receive reduced credit as shown above.

Questions on homework assignments for this course should be directed to the course instructor. Do not wait too long to get help as new material will require understanding of previous material.

Classroom Courtesy and Academic Integrity

- Please be respectful of others and realize that this is a learning environment. Discussion is encouraged, but try to remain on-topic.
- Always be on time for class (excessive tardiness will count as absence).
- Although you are encouraged to discuss problems and assignments with each other, cheating (including, but not limited to, plagiarism) is unacceptable and will not be tolerated. If you are caught cheating, you will receive 0% for an exam while a programming assignment will result in an additional penalty (see above) for all parties involved and the department and/or University may choose to take further action (See the Academic Misconduct Policy in the A-State Student Handbook (pg. 17) and Plagiarism in a Programming Context).
- No tobacco, food or drinks are allowed in the labs or classrooms.
- Turn off all cell phones and other noisy electronic devices (including music players) during class and keep them put away.
- No use of electronic equipment allowed during exams and written quizzes unless specifically stated.
- Caps or hats which cover the eyes must be removed or turned backward. Sunglasses must be removed unless medical documentation is provided.
- Students who become disruptive to the class will be asked to leave.

Important Dates

Midterm Grades Due
Wednesday, March 6

Semester Break
Monday, March 18 through Saturday, March 23
Last Day to Drop a Class
Wednesday, April 17
Last Day of Class
Monday, April 29
Study Day
Tuesday, April 30

Topic Schedule

- Week 1 - 2: Algorithms
- Week 2 - 4: Python Basics
- Week 4 - 5: Console I/O
- Week 5 - 7: Functions
- Week 7 - 9: Selection
- Week 10 - 11: Repetition
- Week 11: File I/O
- Week 12 - 14: Data Structures - Lists

Exam Schedule

<table>
<thead>
<tr>
<th>Exam</th>
<th>Day</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Friday, February 15</td>
<td>Python Basics, user input, math module</td>
</tr>
<tr>
<td>2</td>
<td>Friday, March 15</td>
<td>comprehensive through Selection</td>
</tr>
<tr>
<td>3</td>
<td>Friday, April 19</td>
<td>comprehensive through Lists</td>
</tr>
</tbody>
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Final Exam

<table>
<thead>
<tr>
<th>Section</th>
<th>Day</th>
<th>Time</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Friday, May 3</td>
<td>8:00 - 10:00 am</td>
<td>CSM 203</td>
</tr>
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Additional Information

Computer Science Department Classroom Policies

Academic Adjustments

Students who require academic adjustments in the classroom due to a disability must first register with ASU Disability Services. Following registration and within the first two weeks of class, please contact me to discuss appropriate accommodations. Appropriate arrangements can be made to ensure equal access to this course.

Obtaining Grades

Official grades must be obtained from the Student Self-Service website. Grades cannot be discussed over the phone or via email. You can track your progress in this course from the "Grades" section of the CSCADE website.

Final Bits

- Any other questions should be directed to the course instructor through email or during office hours.
- This is a general policy statement and is subject to change by the instructor.