**CS 2282**  
**Advanced Computer Programming**

Prerequisite: CS 1182 (Computer Science and Programming).

**Instructor:** Dr. Kevin R. Parker  
**Office:** BA 534  
**Phone:** 282-4783  
**e-mail:** parkerkr@isu.edu  
**URL:** cob.isu.edu/parkerkr

For class times, office hours, and textbooks, please see the online syllabus at [http://cobhomepages.cob.isu.edu/parkerkr/ParkerCOB](http://cobhomepages.cob.isu.edu/parkerkr/ParkerCOB).

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**Course Description**

The web development skills taught in this course are essential in today's job market.

Knowledge of advanced programming concepts is necessary for the student to become adept at handling some of the more difficult problems encountered in the computer science environment. Students will develop an understanding of the basic concepts of object-oriented programming and the advantages it offers.

The course is also designed to enhance the student's problem solving techniques and analytical thinking skills.

As with CS-1182, this course will be challenging and time consuming, requiring considerable effort in designing, coding, and debugging complex programs. The concepts taught in the course are more advanced than those previously encountered, but the basic program design concepts learned in CS-1182 can be applied to facilitate the programming task.
Course Objectives

- The student will be able to explain and utilize the basic concepts of object-oriented programming and design.
- The student will be able to demonstrate an understanding of object-oriented concepts like encapsulation, inheritance, aggregation, and composition through the completion of several programming assignments using such structures.
- The student will be able to show an advanced proficiency in the use of the C# programming environment through the design of several complex programs.
- The student will be able to analyze programming requirements in order to select the appropriate data and processes required by the system.
- The student will be able to show an advanced proficiency in the design of an object-oriented approach to satisfy those requirements.

Topic List:

Object-Oriented Basics
Abstraction
Encapsulation
Information Hiding
Access Modifiers
Message Passing
ArrayLists of Objects
Relationships
Aggregation
Composition
Inheritance
Method Overloading and Overriding
Abstract Classes
Abstract Interfaces
Polymorphism
Type Casting
Dynamic Binding
Object I/O
Exception Handling
Dynamic Data Structures
Collections
XML
DB and C#

Policies & Procedures

Exams
You must score at least 60% on the combined total of all exams in order for the quizzes and the project points to be counted. In other words, you cannot pass this course with less than 60% on the combined total of the exams. Further, you must average at least 70% on all exams in order to be eligible to earn a C grade in the course, unless the professor sees significant improvement throughout the semester.

Make-Up Exams
No make-up exams will be given, regardless of the reason for absence. Instead, a comprehensive exam will be given at the end of the semester to those students who have missed an earlier exam. The grade on the comprehensive exam will replace the zero score received on the missed exam. The exam can be used to replace at most a single zero score. It may be possible to make arrangements to take an exam early if there is a valid reason.

Final Exam
The scheduled date for the final exam is shown on the class schedule. You must be there for the final exam.

Assignments/Projects
Assignments and projects that are not submitted on the due date will be subject to grading penalties of 20% per day. Assignments and projects cannot be graded until all students have submitted their work, so prompt submission is essential.

Tardiness
Students are expected to arrive for class and be in their seats by the scheduled beginning of class. Quizzes will be administered at the beginning of class, and anyone arriving late may not be allowed to take the quiz.

Attendance
Attendance in class is integral to the learning process. Any quizzes or exams that are missed cannot be made up, so attendance is essential. More than three absences may also result in the reduction of one letter grade on the final grade for habitual offenders. If a student misses the equivalent of three weeks or more of class, no credit may be received for the course.

Student Notification
All students are responsible for checking the web page and their e-mail on a regular basis, preferably daily, for notification of any class scheduling changes or assignment clarification.
Instructor Availability

The instructor will be available during posted office hours, but additional efforts are made to increase accessibility to the students. If the instructor is not available at the telephone number above, the student can leave a detailed voice mail message. These messages are checked each day and every effort is made to minimize delay in returning calls. In addition, the instructor’s e-mail is also checked several times each day and often the student will get an immediate response to questions submitted by e-mail. E-mail is usually the most reliable means of contact.

Cell Phones

Cell phones and any other electronic devices that may disrupt class are to be left outside of class or turned off. Repeated violations of this policy will result in letter grade reductions.

Course Fees

The fees on CS courses are explained at http://engr.isu.edu/pages/course-fees.php.

Academic Integrity

Academic integrity is expected at Idaho State University and the College of Business. All forms of academic dishonesty, including cheating and plagiarism, are strictly prohibited, the penalties for which range up to permanent expulsion from the university with “Expulsion for Academic Dishonesty” noted on the student’s transcript. If you are unclear as to what constitutes academic dishonesty, read the College of Business Policy on Academic Integrity and the ISU Student Code of Conduct.

Students with Special Needs

Our program is committed to all students achieving their potential. If you have a disability or think you have a disability (physical, hearing, vision, psychiatric, or learning disability) that may need a reasonable accommodation, please contact the ADA & Disabilities Resource Center located in Graveley Hall on the ISU Pocatello campus, Room 123, 282-3599, as early as possible.

Closed Week Policy

Information about the ISU Closed Week Policy can be found online. Note that the policy does not prevent the presentation of new material during closed week.

Final Grade Determination

<table>
<thead>
<tr>
<th>Type</th>
<th>Points</th>
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<tbody>
<tr>
<td>Programs/Assignments</td>
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</tr>
<tr>
<td>Exams</td>
<td>50%</td>
</tr>
<tr>
<td>Quizzes/Assignments</td>
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</table>

Grade Distribution

This class utilizes my Standard Grading System. Please note that final grades are assigned based on student performance on assignments and exams and are not negotiable.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>92.00 - 100.00</td>
</tr>
<tr>
<td>A-</td>
<td>90.00 - 91.99</td>
</tr>
<tr>
<td>B+</td>
<td>88.00 - 89.99</td>
</tr>
<tr>
<td>B</td>
<td>82.00 - 87.99</td>
</tr>
<tr>
<td>B-</td>
<td>80.00 - 81.99</td>
</tr>
<tr>
<td>C+</td>
<td>78.00 - 79.99</td>
</tr>
<tr>
<td>C</td>
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<td>C-</td>
<td>70.00 - 71.99</td>
</tr>
<tr>
<td>D</td>
<td>60.00 - 69.99</td>
</tr>
<tr>
<td>F</td>
<td>00.00 - 59.99</td>
</tr>
</tbody>
</table>

Professional Demeanor

Part of receiving an education from a professional college is learning about your chosen field. Another part is learning to act like a member of that field. Professional Demeanor is in many ways the most important part of the learning process. How you act affects not only how others perceive you, but can also result in rewards or, alternatively, negative consequences. It will also affect your class grade.

Your class grade will consist of two parts: the objective portion that is a calculated average of all assignments, quizzes, exams, etc., and a subjective portion that is based on your professional demeanor. The professional demeanor multiplier (PDM) can range from 0.85 to 1.05, and will be multiplied by your calculated average. Students will be assigned a PDM of 1.0 unless behaviors are exhibited that signify unreadiness for the workforce.

Final Grade = Calculated Grade * PDM

Students will demonstrate professional demeanor and commitment in a variety of ways: energetic and respectful participation in class, willing acceptance and completion of obligations; punctuality; and not whining. Professional demeanor includes several subjective items such as punctuality, attendance, positive attitude, preparation, appropriate language and respectfulness to other students and the professor. Students are expected to come to class prepared, participate in activities and discussions, and treat others with respect in the classroom, which includes listening interactively to classmates and the professor, and respecting others’ viewpoints.
Students are expected to arrive for class and be in their seats by the scheduled beginning of class.

Attendance is very important and is addressed in a separate section. Students are expected to attend class. It is your responsibility to contact the professor when you are unable to attend, and to obtain information about missed assignments, etc., from classmates.

Do not leave class early unless prior arrangements have been made with the professor.

Do not read the newspaper during class.

Do not bring meals or snacks to class.
Every cell phone, beeper, pager, or personal digital assistant should be set to mute or off before coming to class. Multiple violations of this policy will result in letter grade reductions.

Some students enroll in a course already having experience in the subject area, and while contributions to discussions are welcomed, arrogance and unwillingness to learn or comply with professor directions will not be tolerated.

**Laptop Policy**

Increasing numbers of students are using personal computers to take notes in class. Some classmates sitting nearby have occasionally been distracted by the sound of the keys. To maintain an atmosphere conducive to learning in the classroom and to avoid distracting others, students using laptops in classrooms should follow these principles of good practice.

- Set your computer so that no audible signal is heard (e.g., when the battery is low). Similarly, install software so that there is no sound when the software is “booted up” or used.
- Students using portable or notebook computers in the classroom should make every attempt to sit in an area of the classroom where noise from the computer will not bother other students. In general, it is best if all students using portable computers sit near the back of the classroom.
- Restrict laptop use to note taking or class-related web sites. Random browsing, playing computer games, exchanging e-mail and Internet messaging are discouraged. If you engage in unauthorized communication or entertainment (surfing, instant messaging, chat room chatting, DVD viewing, music playing, game playing, etc.), you will be marked absent.
- If you engage in unauthorized communication or entertainment during lecture, you will be marked absent.
- If a guest speaker comes into the class, please give the person your full attention and close your laptops.