Meeting time, place:
Lecture – 11:00 to 11:50, Monday and Wednesday, Sequoia 456;
Laboratory – Sequoia 446

Instructors:
Lecture:
Mr. Patrick Sparks (office – Sequoia 426C, email: jpsparks@csus.edu)
Laboratory:
Dr. Jahansooz Toofan
Sections: 3 (MW 1:30 - 4:00) and 4 (TuTh 8:00 - 10:30)
Mr. Patrick Sparks
Sections: 2 (MW 8:00 - 10:30) and 5 (TuTh 1:00 - 3:30)

Emphasis of Course Content:
Lecture - Principles and application of chemical equilibria; measurements and associated
statistics; titrations; introduction to spectroscopy and chromatography.
Laboratory – Mastering equipment for quantitative handling of chemicals; learning high
precision analytical methods; handling of samples; introduction to spectroscopy and
chromatography for quantitative analysis; application of statistics; introduction to report
writing.

Texts: Harris, *Quantitative Chemical Analysis*, 8th edition (Note, you may use an
erlier edition of the text, but you are responsible for any differences);
For Lab, *Chemistry 31 Laboratory Manual*

Tentative Lecture Schedule – Revised  (Amount of material covered may change
slightly but test dates are rarely changed.):

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
<th>Homework / Quiz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr. 1</td>
<td>Cesar Chavez Holiday</td>
<td>No class on Monday</td>
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<tr>
<td>Apr. 3</td>
<td>Acid-Base Equilibria (Ch.8)</td>
<td>165-177</td>
<td></td>
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<tr>
<td>Apr. 8-10</td>
<td>Acid-Base (Ch. 8), Polyprotic acids (Ch. 9)</td>
<td>185-191</td>
<td>HW</td>
</tr>
<tr>
<td>Apr. 15-17</td>
<td>Polyprotic acids (Ch. 9)</td>
<td>193-198</td>
<td>HW, Quiz</td>
</tr>
<tr>
<td>Apr. 22</td>
<td>Acid-Base Titrations (Ch. 10)</td>
<td>205-223</td>
<td></td>
</tr>
<tr>
<td><strong>Apr. 24</strong></td>
<td><strong>Exam 2 (Ch. 6, 7, 8, 9)</strong></td>
<td></td>
<td>Exam</td>
</tr>
<tr>
<td>Apr. 29 - 1</td>
<td>Titrations (Ch. 10), Chromatography (Ch. 22)</td>
<td>537-539,</td>
<td></td>
</tr>
<tr>
<td>May 6-8</td>
<td>Chromatography (Ch. 22)</td>
<td>542-553</td>
<td>HW, Quiz</td>
</tr>
<tr>
<td>May 13-15</td>
<td>Spectroscopy (Ch. 17), Catch up</td>
<td>393-399</td>
<td>HW, Quiz</td>
</tr>
<tr>
<td><strong>May 20</strong></td>
<td><strong>Final Exam</strong> Monday 10:15-12:15</td>
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<td></td>
<td><strong>Covers Chapters 1, 3, 4, 6, 7, 8, 9, 10, 17, and 22.</strong></td>
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</table>

Note: additional reading for the laboratory section will be needed (e.g. Chapters 2 and 5).
**Posted Information (assignments, homework solutions, example exams):**
At website (http://www.csus.edu/faculty/s/jpsparks/index.html)

**Tentative office hours for Mr. Sparks:** Mon 12:30-1:30, Tues. 11:00-12:00, Wed 12:30-1:30. The office hours for Dr. Toofan will be posted later.

**Attendance:** Attendance in the lecture will not be taken. However, it is to your benefit to attend the lectures and quizzes can not be made up. In the lab, the instructors reserve the right to drop students who miss too many lab meetings, who fall behind because of attendance problems, or who are consistently late to lab.

**Grading:**

The lecture score will account for 55% of the total score with the remainder (45%) from the lab.

**Lecture:**
- 2 midterms (100 points each)
- Cumulative final exam (150 points)
Exams missed due to exceptional circumstances can be made up on the day of the final exam.
- Quizzes (50 points total)
There will be six quizzes (five that count and each worth 10 points). You will be able to drop your lowest quiz score. The first graded quiz will be the diagnostic quiz, with the score based on the "resubmitted" quiz (You get a chance to correct wrong answers).

**Homework (25 points total).** Text homework problems will be assigned but not collected, but you will be assigned one or two “additional” problems with each homework set that will be collected. Homework is collected roughly every other week.

**Laboratory:**
- Laboratory Reports (85 pts)
- Laboratory Notebook Grading (10 pts)
Even though this is only 95 points, the lab portion is scaled up to be 45% of the total grade, as mentioned above.
More details of the laboratory grading are provided in the handout, “Chem. 31 Laboratory Report Schedule”.
Assignment of grades:
The break-down of grades will depend on the class average (in other words be curved), but a higher class average will result in more high grades. The following grading scheme (excluding +’s and –’s) can be considered “typical”:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 – 100%</td>
</tr>
<tr>
<td>B</td>
<td>78 – 90%</td>
</tr>
<tr>
<td>C</td>
<td>66 – 78%</td>
</tr>
<tr>
<td>D</td>
<td>55 – 66%</td>
</tr>
</tbody>
</table>

NOTE: There is a minimum score requirement of at least 50% in both the lecture and laboratory sections to get a grade of C- or above.

Cheating in class: Student caught cheating during quizzes or exams, falsifying lab data, or plagiarizing reports will be subject to punishment. If you have questions on what constitutes plagiarism, see the instructor. Punishment may range from receiving a zero on the quiz/exam to expulsion from the university (see http://www.csus.edu/umanual/AcademicHonestyPolicyandProcedures.htm).

Prerequisites: Pass Chem 1A and 1B or equivalent with grade of C- or better. Be prepared to show proof that you have met the prerequisites in lab.