

CHEM 1062

Summer 2019

Syllabus

MTuWTh 8:00-9:15 a.m., Bruininks 220

Instructor Information

Dr. Janie Salmon
djsalmon@umn.edu

Office: Smith 3

Office Hours

Office hours will be held Tuesdays 9:30-11:00 a.m. and Wednesdays 12:30 - 2:00 p.m. Appointments (set up by email) are also encouraged if office hours do not fit your schedule.

Class Background Information

Chemistry 1062/1066 are a continuation of a year-long introductory chemistry sequence (following Chemistry 1061/1065) that meet the Core Physical Science requirement and are designed to prepare a student for a major in science, including chemistry and engineering, and the health sciences. A student may ask, "Why is this course considered an important component of my liberal education?" A liberally educated person is one who can understand complex issues, find credible information, analyze that information, problem-solve, and draw reasonable conclusions based on facts. This course will develop these skills and prepare you to be an informed citizen and life-long learner.

CHEM 1062 (lecture) and CHEM 1066 (lab) replace CHEM 1022. Concurrent registration in lecture and lab courses is required.

Prerequisites

To register/remains registered in this course, you must meet the following criteria:

- Completed CHEM 1061 or an equivalent course with a grade of C- or better
- Be registered in CHEM 1066 lab.

If you do not meet one of these criteria, you should report your situation to the staff in Smith 115 immediately. They handle all registration issues pertaining to this course.

Required Textbooks & Materials

- *Chemistry: The molecular nature of matter and change*, by Martin Silberberg and Patricia Amateis (McGraw-Hill, 8th edition) packaged with an online homework code (ALEKS). **Note that the publisher's online homework system is required and is provided in the package sold at the campus bookstore.**
- *iClicker2 remote and/or REEF polling subscription* (sold in the bookstore or online)
- *Chem Whiteboard – Formula Sheet* (sold in the bookstore)
- Mirror (approximately 6 x 6") or other reflective surface, for use in our e-proctoring system

- Access to an internet-capable laptop or desktop computer (with webcam and microphone) to access our exam system for midterms and the final exam.

Calculators

The presence or use of graphing and/or programmable calculators (or any other electronic communication device) is FORBIDDEN on exams. Their presence or use during an exam will be considered cheating. Only non-programmable calculators with limited memory will be allowed for use during exams. Any one-line display calculator is allowed. The TI-30Xa is the suggested calculator for this and all CHEM 1XXX courses, and for most intro Physics courses. The bookstore stocks this calculator for around \$10. The TI-30X IIS is an acceptable two-line calculator. Many other two-line calculators are programmable and would therefore not be allowed. If you have any questions about your particular calculator, see the instructor immediately. Calculators may not be shared during exams. *If you are concerned about battery failure during the exam, bring a second calculator or extra batteries with you.*

Class Websites

There are 2 websites associated with this lecture course that you must visit frequently to keep up with the material. ***You are also responsible for any announcements made in lecture.*** The CHEM 1066 lab course is a separate class and has a separate website.

Lecture Canvas Site

This site ([CHEM 1062 – Sec 001 – Summer 2019](#)) is where you will find any information associated with this course. It will contain a class calendar, syllabus posting, and many resources to help you succeed in the course. You will find your exam and online homework grades posted here under “Grades”.

ALEKS (online homework system)

There is a link from the Lecture Canvas site to the ALEKS homework system. Follow the instructions posted to set up your account correctly.

Accessing Canvas

1. Connect to myu.umn.edu, log in, and click on “My Courses” tab and select the appropriate class link
- OR...
2. Go directly to canvas.umn.edu, log in, and select the appropriate class link.

Class Work

Practice Problems

Successfully completing practice problems is very important in this course. In addition to the online homework problems, I strongly encourage you to work the end of chapter problems listed on the last page of this syllabus. **The ability to complete**

problems of this type is critical for success on exams. You can also use the Review button in ALEKS to review recently-completed problems.

Online Homework (ALEKS)

Homework will be given using the publisher's online homework system, ALEKS. Earning 90% on ALEKS is required to earn any grade higher than an F in this course. The ALEKS grade will be split evenly between meeting the deadlines for each homework successfully (Assignment Average) AND the final mastery of the topics in ALEKS (Pie Completion). Each homework will cover recently completed material, by chapter. Read the instructions posted in our lecture Canvas site to set up your ALEKS account correctly. **If you do not set up your account correctly, you will not get credit for your online homework.** Homework deadlines are posted on the ALEKS website and in the syllabus. Late homework is not accepted. Only in rare cases (where documentation of required accommodation is provided) are homework extensions allowed; documentation for the accommodation must be provided within 48 hours of the homework due date. No adjustments to homework scores will be provided after this time. All homework is due by the last homework deadline before the last day of classes.

iClicker and/or iclicker REEF polling (in-class problem-solving)

Your responses to in-class problems will be monitored using the iClicker2 system. You may also use the iClicker REEF polling system app subscription instead of/in addition to iClicker. It is your responsibility to ensure your device works properly. Each question will be worth a maximum of 1 point (0.50 point for participation and 0.50 point for correct answer). There are no make-up iClicker points. There will be approximately 50 questions throughout the course; in order to earn any grade higher than a D grade in the class, you must earn at least 25 clicker points. Earning more than 25 clicker points does not boost your letter grade higher. **You must register your iClicker correctly to receive credit, following the link in our Canvas site; no adjustments to iClicker scores will be made after the last day of instruction.**

Exams

There will be three (3) midterm exams held Thursdays June 27, July 11, and July 25, between 8:00 a.m. and 10:00 a.m. (1 hour time limit once you begin; no extension if you start late) and a final exam from 8:00 a.m. – 10:00 a.m. (two hour time limit) on Thursday August 1. All exams are proctored electronically using Proctorio (see details in our Canvas site). The final exam will be comprehensive and cover all lecture material, including that presented after the last midterm exam. Failure to take the final exam (without an Excused Absence) will result in an F in the class. **No exam, including the final exam, may be taken on a day other than that which has been scheduled. If you have conflicts with any of the scheduled times, you should resolve them now or drop the course. The only exception is if you are registered in another UM course that conflicts with the exam time. If you have a course conflict of this type, see me on or before Thursday June 13.**

Exam Format

You must have your student I.D., Chem Formula sheet (which will also serve as your “whiteboard” or “scratch paper” during the exam), calculator, and mirror at each of the midterm exams and the final. I.D. checks will be made by the e-proctoring system. All midterm exams for this course will consist of 20 questions, including multiple-choice, short answer, ranking, and matching. The time limit for a midterm exam is 1 hour (within the provided window), and each question is worth 1 point. The final exam will have 30 questions and is similar in structure to the midterm exams, with a time limit of 2 hours (within the provided window). Each question on the final exam is worth 1 point. The exams will be proctored and graded by computer. *Make sure you understand fully how to set up your computer and prepare for e-proctoring in advance of the actual exams. Details are provided in the class website.*

Missed Exams

In the case of a true emergency, serious illness, or University-related trip that prevents a student from taking a midterm exam, an **excused absence may be granted** in strict accordance with University policy (see link below). *An excused absence may not be granted after a student takes the exam.* To obtain an excused absence, students must contact the instructor in advance OR as soon as circumstances allow to discuss the nature of the emergency. Documentation will be required within one week of the missed exam date. The unweighted average score of all the student’s other exams will replace the zero from the excused midterm exam. Only one missed midterm exam will be replaced in this fashion. If circumstances prevent a student from taking more than one midterm exam, a meeting must be scheduled immediately with the instructor to discuss any options available. Students on University teams playing out of town may be able to take the exam there with the coach or an instructor as proctor; please see the instructor about this early so arrangements can be made.

<http://www.policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html>

For information on missing the final exam, see "Incompletes".

Grades & Grading Policies

The requirements for each grade range are indicated with an “X” in the table. You must meet ALL requirements listed for a particular grade in order to earn that grade. Plus/minus grades will be used for borderline cases, within the specified range, and assigned at the end of the semester.

ALEKS: You must earn at least 90% in ALEKS to earn any grade over F. The ALEKS value will be based on the Assignment Averages (average of your homework assignments, earned at each deadline) and the Pie Completion (total percentage of the pie complete, graded at the start of the final exam). These values will be averaged

50:50. For example, if you earn 95% on Assignment Averages and 85% on Pie Completion, you earn $(95+85)/2 = 90\%$ in ALEKS (required to earn a grade higher than F).

Clickers: You must earn at least 25 clicker points to earn any grade over D. We will have approximately 50 clicker points throughout the semester. Each clicker question is worth a maximum of 1 point (0.50 for any response + 0.50 for correct answer). With 50 clicker points possible, earning at least 25 points mean you need 50% of all possible clicker points to earn at least a C in the class. You do not earn “extra credit” for earning more than 25 clicker points.

Exams: There are 92 exam points possible in this class, broken down in the following manner:

Exam 0 (practice to learn Proctorio):	2 points
Three (3) midterm exams (20 points each):	60 points
Final Exam:	30 points

Grade (range includes +/- grades)	90% ALEKS Assignment Average & Pie Completion (50:50)	25 clicker points	48% of exam questions	65% of exam questions	75% of exam questions
A - range	X	X	X	X	X
B - range	X	X	X	X	
C - range	X	X	X		
D	X				
F					

University grading policies and guidelines can be found at: <http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html>

Other Grade Issues

Late Registration

Please be advised that joining the course after the start of classes does not excuse you from attendance or any work collected and/or graded. You should give careful consideration to this prior to late addition of our course.

Regrades

Request an exam regrade (in writing directly to the instructor via e-mail) by the end of the week following the posting of exam results. It is possible (but very unusual) for the machine-scored exam sheets to be misread by the computer. **You are responsible for making sure you have correctly recorded your choice of answer in the correct space on the answer blank and carefully erasing if you**

decide to change your answers. Carefully recording your answer choices on the question sheet and making sure you have correctly filled in the answer blank will let you check your work to get an accurate exam score by comparing your choices with the posted answers. Work written in the test booklet will not be graded.

S/N Grading

If you are registered for this course on an S/N basis, a grade equivalent to C- on the A-F scale will be required to receive an "S". A D+ or below will receive an "N". Many programs or transfer courses do not like S/N grades or will assume that they are the minimum possible grade. **Requests to change grading basis after the University deadline will not be approved.**

Incompletes

Students who have an EXCUSED ABSENCE from the Final Exam, and have taken the three midterm exams, may be eligible to receive a grade of "I" in the course. Incompletes will not be granted if a student has missed earlier exams, or is not passing based on the work up to the final. You need to fill out an incomplete request form (available in Smith 115) and have it signed. See me for details. This grade is NOT routinely assigned! Any incomplete must be made up in the following semester. After that time all incompletes will turn into F grades.

Withdrawals

If you are considering withdrawing from the class for academic reasons, I urge you to come and speak with me. Your situation may not be as bad as you think it is. If you do decide to drop the class, you should officially withdraw from the course following the rules for your college and know that students withdrawing from the course will not have any records retained for use upon re-taking the class. Please note if you drop CHEM 1062 before Wednesday July 26, 2019, you must also drop CHEM 1066 lab.

Help

Instructor

Asking questions during office hours is a first line of defense toward overcoming conceptual problems with the course material. Get help early on so that problems do not compound! I hope to see you in person so that I can help you if you are having any difficulty.

Free Tutoring

Smith Hall 124 is the site of regular CHEM 1062 drop-in tutorial sessions conducted by general chemistry TAs. See the TA web link for additional details. <http://genchem.chem.umn.edu/chem-10151017/tutor-room-schedule>

Issues with your Instructor

On occasion you may have a concern or problem regarding this course. You will find your instructor quite willing to discuss this with you. If, however, you wish to discuss

it with someone other than your instructor, please contact Dr. Michelle Driessen, General Chemistry Director (office: Smith Hall 113; phone: 624-0062; email: mdd@umn.edu). She will serve as a mediator in helping to resolve the issue.

Policy Statements

Overlapping & Back-to-Back Courses

Enrolling in overlapping or back-to-back courses that does not allow enough travel time to arrive at our class meetings on time is prohibited. For more information, please see:

<http://policy.umn.edu/Policies/Education/Education/OVERLAPPINGCLASSES.html>

Use of Personal Electronic Devices in the Classroom

Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each faculty member to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference: <http://policy.umn.edu/education/studentresp>.

Student Conduct Code

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected adhere to Board of Regents Policy: *Student Conduct Code*. To review the Student Conduct Code, please see: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf.

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

Scholastic Dishonesty

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University

academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf) If it is determined that a student has cheated, the student may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see: <http://policy.umn.edu/education/instructorresp>.

The Office for Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: <https://communitystandards.umn.edu/avoid-violations/avoiding-scholastic-...> If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

Makeup Work for Legitimate Absences

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see: <http://policy.umn.edu/education/makeupwork>.

Appropriate Student Use of Class Notes and Course Materials

Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see: <http://policy.umn.edu/education/studentresp>.

Grading and Transcripts

The University utilizes plus and minus grading on a 4.000 cumulative grade point scale. For additional information, please refer to: <http://policy.umn.edu/education/gradingtranscripts>.

Student Mental Health and Stress Management

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services

are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.

Sexual Harassment

"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: <http://regents.umn.edu/sites/regents.umn.edu/files/policies/SexHarassment.pdf>

Equity, Diversity, and Equal Opportunity

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: [http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity Diversity EO AA.pdf](http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_AA.pdf).

Disability Resource Center

The University of Minnesota views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office on your campus (UM Twin Cities - 612.626.1333) to arrange a confidential discussion regarding equitable access and reasonable accommodations.
- Students with short-term disabilities, such as a broken arm, can often work with instructors to minimize classroom barriers. In situations where additional assistance is needed, students should contact the DRC as noted above.
- If you are registered with the DRC and have a disability accommodation letter dated for this semester or this year, please contact your instructor early in the semester to review how the accommodations will be applied in the course.
- If you are registered with the DRC and have questions or concerns about your accommodations please contact your (access consultant/disability specialist).
- Additional information is available on the DRC website: (UM Twin Cities - <https://diversity.umn.edu/disability/>) or e-mail (UM Twin Cities - drc@umn.edu) with questions.

Academic Freedom and Responsibility

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

* Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".

Class Schedule

This class schedule is also found on the Lecture Schedule module of our Canvas site. If the lecture schedule/homework due dates are modified, I will update the Lecture Schedule on Canvas but will not update the syllabus version. Please check the Lecture Schedule on Canvas for the most up-to-date schedule.

These are the abbreviated chapter titles from Silberberg 8th edition:

- Ch. 16: Kinetics
- Ch. 17: Equilibrium
- Ch. 18: Acid-base equilibrium
- Ch. 19: Ionic equilibria (we will cover 19.4 when we get to Chapter 23)
- Ch. 20: Thermodynamics
- Ch. 21: Electrochemistry (we will not cover 21.5 and 21.6)
- Ch. 23: Transition metals

In ALEKS "open pie" mode, you can work on any topic you are ready to learn (including those you may not have completed from previous homeworks, or those topics you lost in assessments). This is the same mode that you enter if you complete a homework assignment early and may be helpful in reviewing topics before exams. Please note that any work you do in open pie mode counts toward your overall pie completion, but does not add points to your individual Homework scores (for those homeworks, you must complete the relevant topics by the due date). During open pie mode, you may work ahead on homework assignments if you have mastered prerequisite topics for those assignments.

June

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2	3	4	5	6	7	8
9	10 <i>First Day of Classes</i> Chpt 16.1-16.2	11 Chpt 16.2- 16.3	12 Chpt 16.3- 16.4 <i>Labs begin meeting today</i>	13 Chpt 16.4- 16.6	14 HW A Due 11:59 PM	15
16	17 Chpt 16.7; 17.1-17.2	18 Chpt 17.2- 17.5	19 Chpt 17.5- 17.6 HW B Due 11:59 PM	20 Chpt 17.6- 18.1; 18.9	21	22
23	24 Chpt 18.1-18.2	25 Chpt 18.3- 18.6	26 Q&A session during class HW C Due 11:59 PM	27 Exam I (Chapters 16&17) <i>Open pie begins 12:00 AM</i>	28	29
30 <i>Open pie ends 11:59 PM</i>						

In addition to completing the ALEKS homework, I recommend doing the Suggested End of Chapter Problems, listed on the last page of the syllabus.

At the end of each “open pie” ALEKS will give you a follow-up assessment (the last follow-up assessment is after the Open Pie on July 28). This “post knowledge check” is designed to increase long term retention of the material by periodically assessing (“quizzing”) you on topics you have completed. If ALEKS determines you have not demonstrated retention of the topic (which is a totally normal part of the learning process--that's why practicing on a regular basis is so important), it will remove the topic from your pie. You will then have to re-add the topic to your pie in order to get credit for its completion. You can use the open pie sessions to add topics back. Having a topic removed from your pie will not decrease your individual assignment grade. For example, if you earned 100% on Homework A and lost some topics in subsequent assessment, you will still have 100% on Homework A. You may just need to add some topics

back in order to get back to the same completion before those topics were lost. The individual grades of the assessment do not influence your grade, but if you lose topics and do not add them back, you will have a lower overall pie completion (which contributes to your overall ALEKS percentage).

July

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 Chpt 18.6- 18.7	2 Chpt 19.1- 19.2	3 Chpt 19.2- 19.3 HW D Due 11:59 PM	4 No class (University holiday)	5	6
7	8 Chpt 19.3; 20.1-20.2	9 Chpt 20.2- 20.4	10 Q&A session during class HW E Due 11:59 PM	11 Exam II (Chapters 18&19) Open pie begins 12:00 AM	12	13
14 Open pie ends 11:59 PM	15 Chpt 20.4; 21.1	16 Chpt 21.1- 21.2	17 Chpt 21.2- 21.3 HW F Due 11:59 PM	18 Chpt 21.3- 21.4	19	20
21	22 Chpt 21.4, 21.7	23 Chpt 23.1, 23.3	24 Q&A session during class HW G Due 11:59 PM	25 Exam III (Chapters 20&21) Open pie begins 12:00 AM	26	27
28 Open pie ends 11:59 PM	29 Chpt 23.3&23.4	30 Chpt 23.4	31 Q&A session during class HW H Due 11:59 PM			

August

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 FINAL EXAM (comprehensive) 8:00-10:00 AM Open pie begins 12:00 AM Open pie ends 8:00 AM	2	3
4	5	6	7	8	9	10

Pie completion will be graded at the end of the open pie session on Thursday August 1 at 8:00 AM.

Suggested Practice Problems

Chemistry: The Molecular Nature of Matter & Change, 8th Edition

The problems at the end of each chapter are labeled in red or black and are listed as “Chapter number.Problem number” (e.g, problem 14 in Chapter 16 is labeled 16.14). Red problems have answers in Appendix E (back of the textbook) and their worked-out solutions are found in the paper copies of the Student Solutions Manual (on Reserve in Walter Library and available in the Smith 124 Tutor Room). If you are using a 7th Edition (or older) textbook, the problem numbers may differ somewhat. I recommend checking out an 8th Edition textbook from the Reserve Desk at Walter Library so you can compare these problem numbers to your edition of the textbook, as applicable.

These problems are designed as a supplement to the ALEKS homework. The ALEKS homework is part of your overall course grade, and the problems listed here are not graded. The problems listed here are also similar to some problems you’ll see in ALEKS and/or on the practice exams. **It will be difficult for you to do well on exams if you cannot solve the problems listed here.**

There are many more end-of-chapter problems than those suggested here—you are encouraged to work additional problems as needed. Make sure you are working enough practice problems so that you feel comfortable with the material.

Chapter 16	14, 16, 18, 21, 25, 26, 28, 30, 32, 34, 35, 37, 43, 44, 61, 62, 74, 75, 76, 83, 84, 85, 98, 101, 105, 108, 118, 120, 126
Chapter 17	6, 10, 12, 14, 16, 18, 20, 28, 30, 32, 34, 36, 42, 46, 48, 51, 52, 54, 66, 68, 70, 72, 74, 85, 88, 90, 99, 102
Chapter 18	5, 7, 9, 11, 13, 16, 23, 25, 27, 29, 31, 41, 43, 45, 47, 49, 53, 64, 66, 68, 88, 94, 101, 103, 105, 107, 109, 111, 128, 142, 144, 149, 167, 168, 174, 186
Chapter 19	1, 4, 10, 14, 20, 22, 24, 26, 28, 30, 32, 43, 49, 51, 53, 55, 67, 71, 73, 75, 79, 85, 89, 113, 127, 128, 138, 140
Chapter 20	10, 12, 16, 20, 24, 33, 41, 47, 51, 53, 55, 57, 60, 69, 71, 73, 77, 79, 83, 84, 85, 104, 106, 107
Chapter 21	10, 22, 27, 29, 33, 40, 42, 46, 58, 62, 64, 66, 70, 73, 82, 87, 93, 101, 103, 105, 111, 119, 138
Chapter 23	4, 9, 12, 14, 16, 37, 39, 45, 47, 53, 55, 63, 74, 80, 82, 86, 92, 94, 97, 102, 114