



**Department of Psychology**  
**Psychology 369 (L01) – Sensation and Perception**  
**Fall 2009**

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<b>Class Time:</b>	M/W/F: 11:00 – 11:50 A.M.	<b>Classroom:</b>	A142
<b>Instructor:</b>	Dr. Donald Kline	<b>E-mail:</b>	donkline@ucalgary.ca
<b>Office:</b>	Admin. 237		
<b>Office Hours:</b>	M/W: 2:00 – 3:00 P.M. & by appointment	<b>Phone:</b>	220-4969

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### **Course Overview**

To interact safely, effectively and comfortably with the world around us depends on our ability to extract accurate and timely sensory information. Sensory systems enable us to carry out everyday tasks - to hit a ball, run without falling, converse with another person, and appreciate art or music. Sensory systems are also critical for our survival, allowing us to determine if a substance is likely to be edible, if an object or event might cause pain or injury, if a predator or prey is nearby, or to predict if we are about to cross the path of an oncoming train.

The goals of this course are to provide you with an understanding of: 1.) the basic sensory systems for sight, hearing, touch, pain, smell and taste, 2.) the scientific methods used to study sensory systems, 3.) how our sensory/perceptual abilities change as we develop and age, and 4.) some of the intriguing sensory/perceptual phenomena that we encounter in everyday life. In reaching these goals you will acquire the background needed for advanced study of sensory and perceptual processes (e.g., Vision: Psyc 469, and Audition: Psyc 471). This outline is a “learning contract” for meeting these course goals.

The course is comprised of 4 Modules, each corresponding to about a quarter of the term. At the conclusion of each Module, an exam will test your understanding of the assigned text and lecture/demo information. The specific topics considered in each Module are presented in section XI (Lecture/Exam Schedule) of this outline.

### **Course Prerequisites**

Psychology 205: Principles of Psychology

## Required Text

This course is offered in a “blended learning” format that does not require a text. Instead, you will access Web-based “e-learning” materials created especially for this course by advanced psychology majors in the Psychology Instruction Project (PIP).

The URL for the 369F09 e-learning materials is: <http://ucalgary.ca/pip369/>

**Course Blackboard Site:** <http://blackboard.ucalgary.ca/>

**Course Material Web Site:** <http://www.ucalgary.ca/pip369/>

If feel that you would like to use a text as a “backup” (your choice), the following are excellent reference sources:

- 1.) Coren, S., Ward, L.M. & Enns, J.T. (2004). *Sensation and Perception* (6<sup>th</sup> Ed.) Hoboken, NJ: John Wiley & Sons.
- 2.) Goldstein, E.B. (2007). *Sensation and Perception* (7<sup>th</sup> Ed.). Belmont, CA: Thomson Wadsworth. \*
- 3.) Sekuler, R. & Blake, R. (2005). *Perception* (5<sup>th</sup> Ed.). New York: McGraw Hill.

\* The Goldstein text has been adopted in some prior offerings of the course so you may be able to find a used copy locally. These books can also be ordered through the Bookstore or online.

## The Psychology Instruction Project (PIP) and Psyc 369

The Web-based learning materials employed in this course were created by undergraduate student instructional designers who participated in the PIP, a project developed in Psychology by D. Kline, J. Ellard and L. Wenger. Funded by the University, Faculty of Social Sciences and Department of Psychology, the goal of the PIP was to enhance the 369 course by using materials created from a student perspective, and by increasing opportunities for interactive or experiential learning on the Web and in the classroom.

Forty-four advanced undergraduate students received intensive training from a wide range of campus experts on relevant technical (e.g., Dreamweaver, Photoshop, Breeze, Web servers, and storyboarding) and instructional Web development (i.e., project management, instructional design, informational retrieval, writing for the Web, copyright law, optimizing the visual impact of learning materials, and the effective use of feedback in team environments) skills. With the support of an undergraduate technical team and guided by the course instructors, each PIP students created two e-learning units in either Psyc 312 (Experimental Design & Quantitative Methods and/or Psyc 369 (Sensation & Perception), courses that they had previously completed in traditional lecture/text format. Students like you, working in four-member support groups, developed the Web materials that replaced the text for this course. As you complete the assigned Web units, you will “meet” many of them through their online bios and the e-learning materials that they have created. These materials have now been extensively edited and revised, but if you encounter any problems or have suggestions for improvement, please e-mail them to the course instructor.

## Evaluation

### A. Exam Scheduling

There will be 4 exams in this course: a Term Exam after each of Modules 1, 2, and 3, and a partly comprehensive Final after Module 4. The Final Exam is "partly comprehensive" in that in addition to the questions covering the Module 4 material it will include some questions from Modules 1, 2, and 3 (see Exam Format section below). **Note:** A detailed schedule of class topics, assigned Web unit(s) for each class, and Term exams is provided in the Lecture/Exam Schedule (Section XI) of this outline. The Final Exam will be scheduled by the Registrar's Office during the Final Exams period.

### B. Exam Format

**1.) Term Exams (55% of grade):** Each Term Exam will consist of 36 multiple-choice questions given in "paperless" format (see following "Exam Type" section for a description of "paperless" exams). The first 2/3 of the questions on each exam (i.e., 24 items) will be based on the assigned Web unit material, the final 1/3 (i.e., 12) will be from the in-class material. This makes it essential to attend all classes and to review the notes provided on Blackboard for any classes that are missed.

**2.) Final Exam (45% of grade):** The 60-item Final Exam is cumulative, including 6 multiple-choice questions each from Modules 1, 2 and 3 plus 42 multiple-choice questions from Module 4. As a result, each Module will contribute equally (i.e., 42 questions) toward the final grade. The Final Exam will also be "paperless" with 2/3 of the items based on the assigned Web material, and 1/3 of items from the Lecture material.

### C. Exam Type

**1.) "Paperless" Exams.** To provide students with more time to complete each exam, as well as save paper, trees, money and support staff resources, exams will be administered using a "paperless" approach. The test will be presented on-screen 4 items at a time via data projector. So that everyone has enough time to revisit more difficult questions, the exam is presented two times. An Answer Recording Form is provided so that you can note any items that you want to revisit in the second session, and also for recording all your answers for the purpose of reviewing your answers during the exam review. The latter is important because Freedom of Information and Privacy Act makes it impractical to return the original answer sheets in large classes. So that you are completely familiar with the paperless approach to exams, the exam procedures will be explained in class, and a practice exam will be provided prior to the first Term Exam. Each exam will be reviewed in the class following the one in which the exam was taken.

A systematic study of the paperless exam procedure (Ellard, Kline, & Wenger, 1994\*) shows that students perform as well or a bit better on paperless than paper exams. The paperless approach provides other important benefits as well. These include more time for everyone to write the exam, equity in time to write the exam, and a quieter exam environment. And by avoiding the consumption of literally thousands of sheets of paper, there is a considerable ecological and economic saving.

**Note:** Because the paperless format necessitates that all students begin the exam at the same time, it is necessary to ***be in class*** and in your seat ***not later than the scheduled class time!***

\* **Reference:** Ellard, J., Kline, D., & Wenger, L. (1994, July). Paperless exams: Saving trees and money without compromising student performance. Poster presented at the annual meeting of the Canadian Psychological Association, Penticton, B.C.

**2.) Written Exemption Waiver for Paper Exams.** For students whose performance would be demonstrably disadvantaged by the paperless exam format (e.g., those with low vision with their best visual correction or other recognized disability), a written waiver for taking a paper rather than “paperless” version of exams will be provided on a pre-approved basis ONLY. To secure such a waiver, written documentation from the University’s Disability Resource Centre, or a statement from an eye-care professional (i.e., an optometrist or ophthalmologist) that indicates the student's "best-corrected far acuity" monocular or binocular must be presented to the Instructor responsible for the exam at least one week prior to the date of the exam.

#### **D. Posting & Recording of Exam Scores**

Term Exam scores will normally be posted on the course Blackboard site by 2:00 PM on the first regular class day following the exam or sooner (assuming that exam scores are available from the University computerized grading facility and that the Blackboard system is “up”). Scores will be listed in order of increasing student I.D. number. A score/grade distribution will give you an indication the letter-grade equivalents for that exam. [**Note:** Only your score, not its letter grade equivalent, is entered into the computer for each exam; that way, any score points over the minimum letter grade equivalent for each exam can be "carried forward" to help your final letter grade for the course.]

#### **Grading Scale**

Grades for each Term Exam and the Final Exam, as well as for the course overall, will be assigned using a score/grade distribution that follows:

A+	96-100%	B+	80-84%	C+	67-71%	D+	54-58%
A	90-95%	B	76-79%	C	63-66%	D	50-53%
A-	85-89%	B-	72-75%	C-	59-62%	F	0-49%

Credits for research participation will be added to the final grade percentage. As noted in the University Calendar, it is the instructor’s discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades. To determine final letter grades, final percentage grades will be rounded up or down to the nearest whole percentage as appropriate (i.e., 89.5% will be rounded up to 90%; 89.4% will be rounded down to 89%, etc.).

#### **Final Course Grades**

Your final course grade will be assigned based on: 1.) the best two scores from the three Term Exams (55%), 2.) your score on the comprehensive Final exam (45%), and 3.) up to an extra 2% bonus for Research Participation. Dropping the lowest Term Exam score allows the student to

have one low Term Exam score without jeopardizing the final course grade. If an exam is missed for medical reasons, the student must contact Dr. Kline and provide an official University medical excuse for the missed exam; otherwise you will have forfeited any right to make up the missed exam. [See Section F below (Absence from a Test/Exam for a full explanation of University policy regarding missed exams.)]

### **Expectations for Mutual Success**

Your learning in this course is the best measure of its success. To facilitate learning, we'll need to meet clear and reasonable expectations of one another. Some general guidelines for this are listed below.

#### **A. Student Expectations of the Course Instructors**

*We will do our best to:*

1. Make the course an enjoyable and rewarding learning experience for you.
2. Share with you some of the many fascinating problems in sensory research, some of which are among the most interesting in science.
3. Ensure that course is consistent with this course outline.
4. Ensure that the course, including its goals and methods are clear and organized.
5. Make exams fair and representative of the assigned lecture and reading material.
6. Provide you with the feedback that you need to understand your grade on any exam as well as the course overall, and to fix any marking errors that arise.
7. Be accessible, and to respond to your concerns.
8. Recognize and fix any course problems that you bring to our attention.

#### **B. Instructor Expectations of Students**

*We expect that you will:*

1. **Read this course outline.** Most questions about the course are answered by the information in this Outline. Please remember that there are more than a hundred students in this course, but only one instructor. So that you do not waste time, including that of your fellow students, please check to be sure that your questions are not already answered by the Outline.
2. **Recognize that learning increases your intellectual capital and power.** As for most experiences in life, your benefits from this course will be a function of the effort that you invest in it. Considerable hard work will be needed for you to do well in this course, so if you are looking for an "easy course" then you should enroll elsewhere.
3. **Work smart.** Active involvement in a course and your on-time completion of the unit learning assignments will produce deeper, lasting more efficient learning. That's why we have included a specific Web unit for every lecture topic; I will expect you to come to class having completed the assigned unit(s)!
4. **"What goes around comes around!"** Although it may not be a self-evident truth, professors are people too and we appreciate receiving the same fair-minded, considerate treatment as other humans. Among other things, this means that I expect you to: a) arrive at class on time, b) inform the instructor at the beginning of class if there is a need to leave during the class, c) not talk during class (except for in-class

- discussion), and d) respond to the instructor's in-class questions whenever possible.
5. **Recognize that in a University course there is not sufficient time to lecture on all relevant or important topics.** Since the number of classes is too limited to cover a vast breadth of topics, not all topics covered in the assigned Web units can be included in the lecture. But because a topic cannot be covered in class, it is NOT less important, or to be very practical about it, an assigned reading topic is just as likely to be on the exam, whether it was included in lecture or not!
  6. **Exams in this course use a "paperless" format.** Any exception to this must be secured in writing from the Instructors (for specific details, see the Examinations and Grading Section below).
  7. **Academic misconduct (e.g., cheating on exams, plagiarism) is unfair to other students; it demeans the perpetrator, and is completely unacceptable to your instructors.** Thus, we will do our utmost to assure that any instances of such misconduct receive the maximum penalty allowable under University policy.
  8. **If there are any questions, issues or problems, please come and see us.** Please remember that we want to be as helpful to you as we can, but can do so only if you tell us about your concerns (e.g., in office hours, before or after class, or during an appointment).

### **Reappraisal of Grades**

A student who feels that a piece of graded term work (e.g., term paper, essay, test) has been unfairly graded may have the work re-graded as follows. The student shall discuss the work with the instructor within 15 days of being notified about the mark or of the item's return to the class. If not satisfied, the student shall immediately take the matter to the Head of the department offering the course, who will arrange for a reassessment of the work within the next 15 days. The reappraisal of term work may cause the grade to be raised, lowered, or to remain the same. If the student is not satisfied with the decision and wishes to appeal, the student shall address a letter of appeal to the Dean of the faculty offering the course within 15 days of the unfavourable decision. In the letter, the student must clearly and fully state the decision being appealed, the grounds for appeal, and the remedies being sought, along with any special circumstances that warrant an appeal of the reappraisal. The student should include as much written documentation as possible.

### **Plagiarism and Other Academic Misconduct**

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. Consequently, plagiarism or cheating on any assignment is regarded as an extremely serious academic offense. Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Students should examine sections of the University Calendar that present a Statement of Intellectual honesty and definitions and penalties associated with Plagiarism/Cheating/Other Academic Misconduct.

### **Academic Accommodation**

It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than 14 days after the start of this course.

### **Absence from a Test/Exam**

Makeup tests/exams are NOT an option without an official University medical excuse (see the University Calendar). A completed Physician/Counselor Statement will be required to confirm absence from a test/exam for health reasons; the student will be required to pay any cost associated with this Statement. Students who miss a test/exam have 48 hours to contact the instructor and to schedule a makeup test/exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Except in extenuating circumstances (documented by an official University medical excuse), a makeup test/exam must be written within 2 weeks of the missed test/exam.

### **Course Credits for Research Participation (Max 2% of final grade)**

Students in this course are eligible to participate in Departmentally approved research and earn credits toward their final grades. **A maximum of two (2) credits (2%) per course, including this course, may be applied to the student's final grade. Students earn 0.5% (0.5 credits) for each full 30 minutes of participation.** The demand for timeslots may exceed the supply in a given term. Thus, students are not guaranteed that there will be enough studies available to them to meet their credit requirements. Students should seek studies early in the term and should frequently check for open timeslots. Students can create an account and participate in Departmentally approved research studies at <http://ucalgary.sona-systems.com>

The last day to participate in studies and to assign or reassign earned credits to courses is **Dec 7<sup>th</sup>, 2009**.

### **Extra (Optional) Course Learning Tools**

#### **A. Class Notes on the Web**

The notes for each lecture/demo are available on the course Blackboard site. Printing them off in advance and bringing them to class will save you time and effort to. You can then add any comments you need to make them clear and more useful for you. Legal copyright issues preclude "Web publishing" of the scores of graphics and figures used in the course, so the Web notes contain only the text component of the lectures. Many of these graphics are essential to understanding the issues discussed in class, so it is critical that you attend all scheduled classes.

#### **B. Study Help on the Net**

Information on how to prepare for exams ("Test-Taking Advice: Especially for the Multiple-Choice Challenged") has been made available on the Web by Drs. Tim Rogers and Don Kline at the following address:

<http://psychology.ucalgary.ca/undergraduate/student-support#tta>

Although preparation for multiple-choice exams is emphasized in this learning aid, the information is relevant for all exam types, short-answer and essay included.

**C. VAL Tutorials on the Web**

To assist your mastery of some of the course topics, students and staff in the Vision & Aging Lab (VAL) have created several computer-based Web-based tutorials. These are listed below along with the 369 topics for which each is most relevant. They can be accessed via the Vision & Aging Lab home page at the following URL:

[www.psych.ucalgary.ca/pace/VA-Lab/](http://www.psych.ucalgary.ca/pace/VA-Lab/)

Tutorial	Author(s)	Relevant to Course Topic(s)	In Course Module
<b>Refraction of Light</b>	Lynk, Kline & Cooney	<i>Invitation to the Eye Ball</i> <i>Clinical Vision</i>	I III
<b>Bases of Colour Vision</b>	Wagner & Kline	<i>Colour Perception &amp; Deficiencies</i>	II
<b>Colour Perception in Everyday Life</b>	Kokotailo & Kline	<i>Colour Perception &amp; Deficiencies</i>	II
<b>Visual Size: Calculating a Visual Angle</b>	Kline, Lynk & Cooney	<i>Acuity &amp; Contrast Sensitivity</i>	II
<b>Acuity Testing</b>	Shorten, Kline, Connolly & Fee	<i>Acuity &amp; Contrast Sensitivity</i>	II
<b>Art, Vision &amp; the Disordered Eye</b>	Coldham, Cooney & Kline	<i>Clinical Vision</i>	III
<b>Corrective (Ophthalmic Lenses)</b>	Bergerman, Kline, Lynk & De Maria	<i>Clinical Vision</i>	III
<b>Visual Development</b>	Salamanca & Kline	<i>Visual Development</i>	IV
<b>Visual Agnosias</b>	Rai & Kline	<i>Clinical Vision</i>	IV

**IX. Vision & Aging Lab (VAL) Eye Glass Collection for Vision Patients in the Third World**

Our Vision & Aging Lab (VAL) operates an Lions Recycle for Sight used eyeglass site for the collection and distribution of used eyeglasses to those needing them in Third World

communities. If you, your family or friends have eyeglasses that are no longer needed, you can donate them to someone who cannot afford the glasses that they need to see. To participate, just give them to the Course Instructor or TA drop the glasses off at the Lab (Admin 237).

### **Student Organizations**

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in Administration 170 and may be contacted at 220-5567.

**Student Union VP Academic:** Phone: 220-3911 [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca)  
**Student Union Faculty Rep.:** Phone: 220-3913 [socialscirep@su.ucalgary.ca](mailto:socialscirep@su.ucalgary.ca)

### **Important Dates**

The last day to drop this course and **still receive a fee refund** is **Sep 18<sup>th</sup>, 2009**. The last day to withdraw from this course is August **Dec 8<sup>th</sup>, 2009**.

## **X. Important Notices**

### **A. Important Dates**

The last day to drop this course and **still receive a fee refund** is Friday, **Sept. 18, 2009**. The last day to add a course is **Tuesday, Sept. 22**. The last day to withdraw from this course is Tuesday, **Dec. 8, 2009**.

### **B. Student Organizations**

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). It is located in the Administration building, room 170 or may be contacted at 220-5567.

**Student Union VP Academic:** Phone: 220-3911 [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca)  
**Student Union Faculty Rep.:** Phone: 220-3913 [socialscirep@su.ucalgary.ca](mailto:socialscirep@su.ucalgary.ca)

## XI. Lecture/Exam Schedule

### MODULE 1 The Eye & the Brain (Sept. 9 – Sep. 25)

By Date (Day)	Topic:	Complete Module/Unit(s):
Sept. 9 (W)	<i>Intro to Psyc 369 &amp; Paperless Exams</i> About Sensation & Perception	----- 1.1 Intro to Sensation & Perception
Sept. 11 (F)	About Sensation & Perception	1.1 Intro to Sensation & Perception
Sept. 14 (M)	Measuring Perception	1.2 Measuring Sensitivity 1.3 Difference Thresholds
Sept. 16 (W)	The Eye Ball	2.1 The Eye
Sept. 18 (F)	Spotlight on the Retina	2.2 Retina
Sept. 21 (M)	The Path to the Brain	2.3 Visual Pathways
Sept. 23 (W)	The Visual Brain	2.4 The Visual Brain
<b>Sept. 25 (F)</b> <b>Exam 1: Course Module 1 Web Assignments &amp; Lecture/Demo Material</b>		

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### MODULE 2 Light, Colour, Form & Time (Sept. 28 – Oct. 19)

By Date (Day)	Topic:	Complete Module/Unit(s):
Sept. 28 (M)	<i>Exam 1 – Review</i> Lightness & Darkness	----- 3.1 Brightness, Lightness, Darkness
Sept. 30 (W)	Lightness & Darkness Colour Perception	3.1 Brightness, Lightness, Darkness 3.2 Perceiving Colour
Oct. 2 (F)	Colour Deficiencies	3.3 Colour Deficiencies
Oct. 5 (M)	Acuity & Contrast Sensitivity	4.1: Spatial Vision
Oct. 7 (W)	Perception of Motion; Motion Demos	4.2: Perceiving Movement
Oct. 9 (F)	The 3rd Dimension: Depth Perception	4.3: Perception of Location
<b>Oct. 12 (M)</b>	<b><i>No Class – Thanksgiving</i></b>	
Oct. 14 (W)	Perception of Form	4.4: Perceiving Objects, Scenes, ---
Oct. 16 (F)	Perception of Time	4.5: Time & Temporal Resolution
<b>Oct. 19 (M)</b> <b>Exam 2: Course Module 2 Web Assignments &amp; Lecture/Demo Material</b>		

**MODULE 3**  
**Stability, Loss, Touch & Pain (Oct. 21 – Nov. 16)**

<b>By Date (Day)</b>	<b>On the Topic:</b>	<b>Complete Module/Unit:</b>
Oct. 21 (W)	<i>Exam II Review</i> Stability in a World of Change	----- 5.1: Constancy in Changing ---
Oct. 23 (F)	Stability in a World of Change Clinical Vision	5.1: Constancy in Changing --- 5.2: Clinical Aspects Vision
Oct. 26 (M)	Clinical Vision	5.2: Clinical Aspects Vision
Oct. 28 (W)	Auditory System	6.1: Sound: Auditory System
Oct. 30 (F)	Auditory Perception	6.2: Perceiving Loudness ---
Nov. 2 (M)	Speech Perception	6.3: Perception of Speech
Nov. 4 (W)	Clinical Audition	6.4: Clinical Aspects Hearing
Nov. 6 (F)	Touch Perception	7.1: Cutaneous Senses - Touch
Nov. 9 (M)	Perception of Pain	7.2: Cutaneous Senses - Temperature & Pain
<b>Nov. 11-15</b>	<b><i>No Classes – Reading Days</i></b>	
<b>Nov. 16 (M)</b>	<b><i>Exam 3: Course Module 3 Web Assignments &amp; Lecture/Demo Material</i></b>	

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**MODULE 4**  
**Chemical Senses, Development & Perceptual Knowledge (Nov. 18 – Dec. 7)**

<b>By Date (Day)</b>	<b>Lecture Topic:</b>	<b>Complete Module/Unit:</b>
Nov. 18 (W)	<i>Exam III Review</i> Smell	----- 8.1: Smell (Olfaction)
Nov. 20 (F)	Smell	8.1: Smell (Olfaction)
Nov. 23 (M)	Taste	8.2: Taste & Flavour
Nov. 25 (W)	Visual Development	9.1: Development of Vision
Nov. 27 (F)	Auditory Development	9.2: Development of Hearing
Nov. 30 (M)	Visual Aging	9.3: Aging of the Senses
Dec. 2 (W)	Knowledge Effects on Perception	10.1: Perceiver in Perception
Dec. 4 (F)	ESP	10.2: Extrasensory Perception
Dec. 7 (M) <i>(Last Class)</i>	ESP	10.2: Extrasensory Perception -----
<b>Dec. 11-21 (Finals Period)</b>	<b><i>Final Exam (Partly Comprehensive): Questions from Modules 1, 2 &amp; 3 plus Exam 4 (Module 4 Web Assignments &amp; Lecture Material).</i></b>	