The exam will be given in the normal lecture room between 7 and 10:50. You may come in any time during these times, but you should be finished taking the exam by 10:50—we’ll have to leave the room at that time.

Structures and functions, anatomy & histology
Ventilation, external respiration, internal respiration
Terms, functions, disorders and applications
Inspiration and expiration and respiratory pressure differentials, mechanics of respiration, compliance (increased and decreased, normal and abnormal), atelectasis (increased, decreased, normal and abnormal), surfactant, asthma, emphysema, pneumothorax, hemopthorax, hypoxia, hypercapnia, hyper/hypoventilation, infant respiratory distress syndrome (IRDS/RDS, was hyaline membrane disease (HMD), bronchial spasms, respiratory membrane (blood-gas barrier, alveolar/pulmonary-capillary membrane/respiratory membrane), nitrogen narcosis, decompression sickness bends, Caisson’s disease (see below), carbon monoxide poisoning, hyperbaric chamber, gangrene, tetanus, perfusion, factors that aid/hinder inspiration or expiration, atelectasis and compliance, etc.

Partial pressures of gasses, pressure gradients and movement of gases (oxygen and carbon dioxide) across membranes, altitude and pressures of gases, external and internal respiration, gas laws (especially how gasses work), high in the atmosphere vs. deep under the ocean vs. at sea level (see some associated disorders above)
Transport of respiratory gases (oxygen and carbon dioxide) oxygen carrying capacity and dissociation from Hb; chloride shift, reverse chloride shift, Bohr effect, Haldane effect, oxygen-hemoglobin dissociation curves and factors that influence hemoglobin’s affinity for oxygen and what conditions/factors cause oxygen to attach to or detach from hemoglobin, formulas for cellular respiration and carbon dioxide joining with water and reverse).

Relate respiratory system with factors associated with exercise and pH. Includes a 10 question series relating these points with exercise—Read Exercise and the Respiratory System.

Stimulus and control of respiration—as covered in Friday’s lecture—include CO₂ and pH as the normal stimulus for respiration and when is low oxygen a stimulus to breathe? How is control of respiration different with emphysema?

Hypoxias (hypoxic, anemic, stagnant (ischemic), histotoxic) on own from text—these are easy—look them up and apply them to what you know.
Various other random terms not included above will be included throughout exam

Read on your own!!! The Effect Smoking Has on Respiratory Efficiency and about Lung Cancer and Emphysema
You’ll see about 10 questions.

The disorders: asthma, RDS, COPD, emphysema, lung cancer, pneumonia, tuberculosis, polio, cystic fibrosis, and pulmonary edema may be mixed in with the concepts above.

These are some important ions and other things: H⁺, HCl, HCO₃⁻, CA (carbonic anhydrase), H₂CO₃, KCl, K⁺, Cl⁻, Na⁺, NaHCO₃, Hb, HbO₂, HbCO₂, and you need to know a few formulas as well (mentioned above).

For your information from Wikipedia: Caisson disease is so named since it appeared in construction workers when they left the compressed atmosphere of the caisson and rapidly reentered normal (decompressed) atmospheric conditions. It is caused by the same processes as decompression sickness (the bends) in divers. The Brooklyn Bridge was built with the help of caissons, and several workers died of caisson disease during its construction.

If you buckle down and study this weekend you’ll find that you have an opportunity to improve your average.
The exam isn’t easy, but it covers less material. This makes it more manageable, especially if you have completed, studied, and know your study guides!

Don’t forget there is BA209 that may help you review.

Total number of questions: 78. This means each question counts!!!