

SIT Session Lesson Plan

Week/Chapter: Week 1

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? What is SIT, Syllabus, study skills, note taking skills, important people in microbiology (Chp 1) and biomolecules overview (Chp 2)

Content to Cover:	Processes to Use*:	Time
Warm-up	Name Game- students are asked to say their name and an adjective associated with their name, also they will have to repeat the response of the students that went before them	3-5 min
Supplemental Instruction/ Tutoring	Discussion- Student will share their knowledge about SIT with other students and why attending weekly is beneficial for them	2-3 min
Study Techniques and Note taking strategies	Q&A- Working in pairs, students will be given 5 minutes to read over the syllabus, then they will be ask questions to their partners about the syllabus, study strategies and note taking skills (at least 3 questions must be over the syllabus)	10 min
Important people in microbiology	Scribe- Students will be redirected to their book pages (1-20) and be asked to write down the names of important people in microbiology and their contributions	15 min
Biomolecules	Mix & Match – Divided into 2 teams, one team will use the bolded terms from pages (29-54), asked the other team to write out the definitions of each term. Roles will be switch after 5min	10 min
Check for understanding	Summarized the session – Students will be asked to summarize the material that was covered during the session	5 min
Tutoring = Q & A		5-10 minutes

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math, (pp. 1-20, 29-54).

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Leader Resource Manual for Supplemental Instruction (SI). (2004). Amanda McDaniel, ed. University of Missouri – Kansas City.

SIT Session Lesson Plan

Week/Chapter: Week 2

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Gram stain of gram + and gram – cell walls (Chp 4), cell organelles and functions of Eukaryotic cells (Chp 5), Isotonic, Hypertonic, Hypotonic solutions (Chp. 7)

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	My name is starts with- Students are asked to name a term covered in lecture that starts with the same letter as their first name	5 min
Gram stain of gram (+) vs gram (-) cell walls	Divide and conquer- Handout is given and students are asked to work together to find the answers to the problem	10 min
Cell organelles and functions of eukaryotes	Scribe will write response of peers in the board (organelles and the functions of Eukaryotes cells). Then students will be asked to circle the organelles that are also in a prokaryote cell	20 min
Isotonic, Hypertonic, Hypotonic solutions	Visualize a cell- place the students (solute) in and around the cell (classroom will be the cell membrane). Then ask the students to represent the given solution. (If there aren't enough people to visualize the cell then we will draw instead)	10 min
Check for understanding	Identify the Big Idea- Students are asked to identify the big ideas of the session	5 min
		5-10

Tutoring = Q & A		minutes
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After session comments/thoughts:

Incomplete Outline

Cell Wall Differences:

Gram positive:

_____ layers:

_____ Layer of peptidoglycan

Teichoic and lipoteichoic acid-function:

Gram Negative:

_____ layers:

_____ Layer of peptidoglycan

Lipopolysaccharide (LPS) and lipoproteins-function:

Peptidoglycan:

Gram Stain:

1. Crystal violet dye is added and stains all the bacterial cells purple.
- 2.
- 3.
- 4.

Answer Key:

Cell Wall Differences:

Gram positive:

___1___ major layer: Cell membrane

___Thick___ Layer of peptidoglycan

Teichoic and lipoteichoic acid-function:
binding of pathogens to tissues and
cell wall maintenance

Gram Negative:

___2___ layers: Cell membrane and other
membrane

___Thin___ Layer of peptidoglycan

Lipopolysaccharide (LPS) and lipoproteins-
function:
Endotoxin

Peptidoglycan: rigid, but flexible, macromolecule that surrounds and protects individual bacterial cells

Gram Stain:

1. Crystal violet dye is added and stains all the bacterial cells purple.
2. Gram's Iodine solution is added, and allow to act (as a mordant). The crystals in the Gram + bacteria get trapped in the peptidoglycan and enlarged thus making the cell purple
3. Alcohol is used for de-colorization. Gram – bacteria are colorless, because the purple stain washes off and the outer membrane dissolves.
4. Flood slide with safranin solution and allow to counterstain. The Gram – bacteria that are colorless now turn red/pink and this has no effect on the Gram + bacteria

(Talaro & Chess, 2014, pgs. 98-99)

Transcribe the following DNA strand into mRNA and translate that strand into a polypeptide chain, identifying the codons, anticodons, and amino acids

1. DNA:

mRNA:

Anticodon:

Amino Acids:

2. DNA:

mRNA:

Anticodon:

Amino Acids:

3. DNA:

mRNA:

Anticodon:

Amino Acids:

4. DNA:

mRNA:

Anticodon:

Amino Acids:

ANSWER KEY:

Transcribe the following DNA strand into mRNA and translate that strand into a polypeptide chain, identifying the codons, anticodons, and amino acids

1. DNA: TAC GCG TAT
mRNA: AUG CGC AUA
Anticodon: UAC GCG UAU
Amino Acids: METHIONINE-ARGININE-ISOLEUCINE

2. DNA: TAC GGT TAG
mRNA: AUG CCA AUC
Anticodon: UAC GGU UAG
Amino Acids: METHIONINE-GLYCINE-STOP

3. DNA: TAC AAG TAA
mRNA: AUG UUC AUU
Anticodon: UAC AAG UAA
Amino Acids: METHIONINE-LYSINE-STOP

4. DNA: TAC CCC TGA
mRNA: AUG GGG ACU
Anticodon: UAC CCC UGA
Amino Acids: METHIONINE-PROLINE-STOP

(Talaro & Chess, 2014, 257-288)

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math.

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SIT Session Lesson Plan

Week/Chapter: Week 3

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Competitive vs Non-competitive inhibition (Chp 8) and Cellular respiration [glycolysis, Krebs cycle and electron transport chain] (Chp 8)

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	Grab bag – In groups, students will write terms from chapter 7 (Pg. 186-212) and 8 (Pg. 219-250) and place it in a bag, the other group will try answer as soon as possible. After time is up the groups will switch turns	10min
Competitive vs. Noncompetitive inhibition	Show and tell- Using the figure 8.10 (Pg. 227) in their textbook, students will show the different forms of inhibition and tell the other student how they work	10 min
Cellular Respiration	Divide and Conquer- Students will be divided into 3 groups. Each group will be given a topic about cellular respiration Pages 231-241 (Glycolysis, Krebs cycle and ETC). The students will be given a board and markers. They will draw out the process and by products for their assigned topic; they will share it with the students.	20 min
Check for understanding	1 minute paper- Students will be asked to write a 1 minute paper about the things they learned during the session	5 min
Tutoring = Q & A		5-10 minutes

After session comments/thoughts:

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math (Fig 8.10, p. 227; pp. 231-241).

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Leader Resource Manual for Supplemental Instruction (SI). (2004). Amanda McDaniel, ed. University of Missouri – Kansas City.

SIT Session Lesson Plan

Week/Chapter: Week 2

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? DNA synthesis and Transcription and translation

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	Entry Ticket- On the board the following question will be placed: "Based on the readings for lecture, what is your understanding of transcription and translation?" Students will write their response into a sheet of paper	5min
DNA synthesis, Transcription and Translation	Draw it out- Students are divided into 3 groups, then they are given time to read over the topic, then as a group they will be asked to draw out the process and write the enzymes	20 min
Transcription, translation, identification of codons and amino acids	Practice Problems- Students are paired and they have to solve the problems in the worksheet	15 min
Check for understanding	Exit Ticket- Before the students leave, they must turn in an exit ticket. In their ticket, they will answer the following questions: "What was the muddiest point in today's SI?" and/or "What questions do you still have about today's lecture?"	10 min
Tutoring = Q & A		5-10 minutes

After session comments/thoughts:

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math.

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SIT Session Lesson Plan

Week/Chapter: Week 6

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Process of infection, Signs, symptoms, source of transmission and epidemiology

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	Count down- CA will say the chapter number, then start a countdown starting from 10. The students have to come up with 5 things to say about that chapter. When the student answers correctly the CA will add a second to their time	5 min
Process of infection and Signs and Symptoms	Think out loud- Working in pairs students will be asked think out loud and come up with the best way to memorize the process of infection and how to differentiate between signs and symptoms. This material is on Pgs. 406-410	15 min
Source of Transmission and Epidemiology	Vocabulary development- Students will be asked to go through Chapter 13 (Pgs 389-421) or notes and write down the most important terms of the topic given. After they finish a scribe will write the terms in the board to see if any terms are repeated more than once.	20 min
Checking for Understanding	Guess the next test question- Students will be asked to write out a question they believe may be on their next quiz.	5 min
Tutoring = Q & A		5-10 minutes

After session comments/thoughts:

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math (pp. 389-421).

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SIT Session Lesson Plan

Week/Chapter: Week 7

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? First, Second and Third Line of defense and Antibodies

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	Never Have I ever- Each student starts with 10 fingers and each student takes turn to say something they have never done. Each time a someone says something others have done they drop one finger	5 min
First, Second and Third line of defense	Jigsaw- Students are divided into 3 groups, each group is given a line of defense. After each student becomes an expert in the group, the groups are assigned to a new "jigsaw" group in which each student acts as the only expert in their specific topic.	30 min
Antibodies	Scribe- 5 Antibodies will be in the board and scribe will write student's responses of what they do, where they can be found and other relevant characteristics	10 min
Check for understanding	Summarize the session- Students will be asked to summarize the session and to describe what activities were the most helpful for them	5 min
Tutoring = Q & A		5-10 min

After session comments/thoughts:

Antibodies CA Notes:

1. IgG
 - Long-term
 - Memory antibodies
2. IgA
 - Secretory
 - Breast milk
 - Mucous membranes
3. IgM
 - Largest
 - Produced at **first response**
 - B-cell receptor.
4. IgD
 - Receptor on **B-cells**
5. IgE
 - **Allergy** antibody

(Talaro & Chess, 2014, pg. 470, Table 15.2)

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math.

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SIT Session Lesson Plan

Week/Chapter: Week 8

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Immunology and Concept review

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	Mouse and Cat- Students will be given two balls. One is a mouse and the other one is the cat. They will be asked to pass the mouse and the cat, when the catches the mouse that person with the help of the two person around need to ask a question given by their peers	5 min
Immunology Pgs 475-477	Scribe- On the board scribe will write student responses about the first, second, and third line of defenses and explain why the different components belong where they do.	10 min
Concept Review (Chp 9-14) Pgs. 256-450	Guess the next test questions- Students will be divided into groups and they will be asked to write out questions from an assigned chapter. Then they will be asked to give their questions to other teams.	30 min
Checking for understanding	Big Concept- Students will be asked to discussed what are the big concepts that they need to go and review further for their exam	5 min
Tutoring = Q & A		5-10 min

After session comments/thoughts:

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math (pp. 256-450; 475-477).

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SIT Session Lesson Plan

Week/Chapter: Week 9

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Diagnosing infections (Chp 17) and cocci of medical importance (Chp 18)

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	Brainstorm race- Divided into groups, the students will brainstorm ideas and questions they can come up with about topics previously learned in SIT/class. However the students are not allow speak, they can only write	5 min
Diagnosing Infections	Grab a bag- Divided into 2 groups, students will write terms from chapter 17 (522-538) and place it in a bag, the other group answer as soon as possible. After time is up the groups will switch turns	10 min
Cocci of Medical importance	Hierarchies- Working in groups, students will be asked to make a flow chart of the medical important cocci bacteria (Pg. 544-569). This models the students a way for them to organize future information from lecture	25 min
Checking for understanding	Guess the next quiz question- Students will be asked to guess two question that may be in their future quiz from the material covered	5 min
Tutoring = Q & A		5-10 minutes

After session comments/thoughts:

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math (pp. 522-538; 544-569).

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SIT Session Lesson Plan

Week/Chapter: Week 10

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Review of medical important cocci (Chp 18) and Gram + bacillus of medical importance (Chp 19)

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	ABC's- Letters of the alphabet will be in the board and the students will have to find one word related to microbiology for each letter of the alphabet and write the letter on the board	5 min
Review of medical important cocci	Stump the Chump- Ask students to take five minutes to write the most difficult questions they can think of relating to the chapter. Then ask the students to quickly compare their questions with their neighbors and select the most difficult questions to ask the CA. If the CA cannot answer the question, the students have "stumped the chump", and they get a point. If you can answer their question, you get a point	15 min
Gram + bacillus of medical importance	Scavenger Hunt- Students will be paired and then given a blank chart, as a team, they will find the answers that are scatter throughout the room. Everyone that finishes will get an incentive	25 min
Check for understanding	Guess the next test question- Of the material covered during the session, students will make up possible questions that may be in their next exam	5 min
		5-10

Tutoring = Q & A		minutes
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After session comments/thoughts:

References

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Gram () Bacillus of Medical Importance							
Organism	Morphology	Virulence Factors	Pathogenic?	Clinical Manifestation	Clinical Testing	Biochemical Tests	Treatment
<i>Bacillus sp.</i> (<i>B. anthracis</i>)							
<i>Clostridium sp.</i> (<i>C. perfringens</i> , <i>C. tetani</i> , <i>C. difficile</i> , <i>C. botulinum</i>)							
<i>Listeria sp.</i> (<i>L. monocytogenes</i>)							
<i>Erysipelothrix sp.</i> (<i>E. rhusiopathiae</i>)							

<i>Croynebacterium sp.</i> (<i>C. diptheriae</i>)							
<i>Propionibacterium sp.</i> (<i>P. acnes</i>)							
<i>Mycobacterium sp.</i> (<i>M. tuberculosis, M. leprae</i>)							
<i>Nocardiosis sp.</i> (<i>N. brasiliensis</i>)							

Gram (+) Bacillus of Medical Importance							
Organism	Morphology	Virulence Factors	Pathogenic?	Clinical Manifestation	Clinical Testing	Biochemical Tests	Treatment
<i>Bacillus sp.</i> (<i>B. anthracis</i>) Anthrax	Rods Large	Endospores Capsules Exotoxins	YES	Black sores Cardio Death (3 types)	Cultures	Catalase (pos)	Vaccinations Antibiotics (Cipro)
<i>Clostridium sp.</i> (<i>C. perfringens</i> , <i>C. tetani</i> , <i>C. difficile</i> , <i>C. botulinum</i>) Tetanus, C. diff, Botulism	Rods	P: alpha toxin, collagenase, hyaluronidase, DNase T: neurotoxins D: enterotoxins B: neurotoxins	YES	P: food poisoning (GI) T: lock jaw, neuromuscular disease D: GI B: food poisoning (GI)	ELISA PCR Toxicity tests	Catalase (neg)	P: antibiotics, O2 therapy T: vaccine D: probiotics B: antitoxins
<i>Listeria sp.</i> (<i>L. monocytogenes</i>) Listeria	Rods	Intracellular Transplacental	YES		ELISA Immunofluorescence DNA analysis		Cold enrichment Antibiotics Ampicillin Gentamicin Trimethoprim Sulfa drugs
<i>Erysipelothrix sp.</i> (<i>E. rhusiopathiae</i>)	Rods	Animal intestines (can survive in)	YES	Trauma	Visual (lesions)		Penicillin Erythromycin (gloves = animals)

							Vaccinations (animals)
<i>Croynebacterium</i> <i>sp.</i> (<i>C. diphtheriae</i>) Diphtheria	Straight/curve d rod Tapering	Metachromatic (granulocyte) exotoxin	YES	Swelling in throat Grey membrane	Alkaline methylene blue ELEK test		Antitoxin Antibiotics Penicillin/ery thromycin
<i>Propionibacterium</i> <i>sp.</i> (<i>P. acnes</i>)	Rods	Biofilms	YES	Acne Lesions	Acid fast stain	Acid fast stain	
<i>Mycobacterium sp.</i> (<i>M. tuberculosis</i> , <i>M. leprae</i>) TB and Leprosy	Rods filamentous	TB: acid fast, cord factor L:	YES	TB: coughing, respiratory, fever L: lesions	TB: x-ray, DNA, serological tests, acid fast L:	catalase	TB: multidrug therapy, BCG vaccine L: chemoproph ylaxis
<i>Nocardiosis sp.</i> (<i>N. brasiliensis</i>)	Rods		YES	Abscesses, nodules, respiratory (3 types)		Catalase	

(Talaro & Chess, 2014, pgs. 574-600)

References:

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SIT Session Lesson Plan

Week/Chapter: Week 11

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Gram (+) bacillus review and Gram (-) bacillus of medical importance

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	No Question- Tell the students to ask questions to which they think your answer will be 'No'. Give an example if they can't come up with a question. Discourage double negative questions	5 min
Gram (+) bacillus review	Discussion- Students are asked to call out what they remember about gram (+) bacillus bacteria Pg 575-599 in their book, then scribe will responses on the board	15 min
Gram (-) bacillus of medical importance	Matrix- In groups, the students will the organize information in Pgs. 605-627 making a matrix. This will help them organize the information by showing its relationship to similar categories of information.	20 min
Checking for understanding	Summarize the session- Students will summarized what was covered and will have an brief open discussion about what are the key words to remember for each bacilli	5 min
Tutoring = Q & A		5-10 minutes

After session comments/thoughts:

References:

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math (pp. 575-599; 605-627).

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SIT Session Lesson Plan

Week/Chapter: Week 12

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Spirochetes (syphilis & Lyme Disease) Vibrio Cholera, Cutaneous, Opportunistic Mycoses, Flagellates, Arthropod Vectors and Flat worm.

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use:	Time
Warm up	Packing my suit case- The first student says, "I pack in my suitcase: a pencil" Then the next student repeats those words and adds something, "I pack in my suitcase: a pencil and a shoe." The next student repeats and adds another item, and so forth. If a student can't recall an item or mixes up the order s/he is out	5mins
Spirochetes and Vibrio bacteria	Interview- Working in pairs, students will ask other students the questions given by the CA. They will take turns and books and notes can be used	20mins
Cutaneous, Opportunistic mycoses, flagellates, arthropod vectors and flat worms	Turn to a partner- An incomplete chart is given to the students and they will be asked to turn to a partner and come up with the answers (Talaro & Chess, 2014, pp. 666-690)	20 min
Checking for understanding	Case Studies- A case study question will be given to check if the students can apply the learned concept into a situation	5 min
Tutoring = Q & A		5-10 minutes

After session comments/thoughts:

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math.

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SIT Session Lesson Plan

Week/Chapter: Week 13

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Introduction to viruses, DNA Viruses and RNA viruses

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	Calendar- CA will distribute a calendar and students will write the schedule of their final exams and they will also write when they will start studying for their finals	5 min
Introduction to viruses	Summarize the big idea- In groups, students will be given sections 6.2, 6.3, 6.4, 6.7 and 6.8 of the chapter (Pages 159-177) and they will be asked to come up with the big idea in that section	15 min
DNA and RNA Viruses	Concept Map- Students are divided into 2 groups (one group will be doing DNA viruses (Pg. 735-754) and the other group will be given RNA viruses (Pg. 760-796)). A Scribe from each tea, will draw a concept map of their given topic and share their knowledge with the class	15 min
Checking for understanding	A-ha moment- Students will be asked to write in a piece of paper their A-ha moment during the session	5 min
Tutoring = Q & A		5-10 minutes

After session comments/thoughts:

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math (pp. 159-177, 735-754, 760-796).

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Mid-Term Calendar

Sun						Sat

Spring Break

SIT Session Lesson Plan

Week/Chapter: Week 14

Course Assistant: _____

Course: Microbiology

Instructor: _____

Objective: What are the one or two most difficult concepts that the students need to work on today? Review for final exam

Beginning reminders:

1. Arrange seats in a circle
2. Make sure everyone has signed in
3. Review lesson plan with group
4. Remember to relax and be flexible!

Content to Cover:	Processes to Use*:	Time
Warm up	Count down- CA will say a chapter, then start a countdown starting from 10. The students have to come up with 5 things to say about that chapter. When the student answer correctly the CA will add a second to their time	5 min
Material covered before exam 1 (Chp. 1-9) Pgs. 1-287	Gallery Walk- Poster boards with the chapter as the title will be placed in the room, then the students will be asked to walk around the room and write anything they remember from the chapter in the board	15 min
Material covered before exam 2 and 3 (Chp. 6 & 11-25) Pgs. 322-793	Mix and Match- Students will be given terms from the material and they will be asked to categorize each term into the corresponding chapter. Then they will asked to pick 40 terms that may be in their exam	15 min
Check for understanding	1 minute paper- Students will be asked to write out a 1 minute paper about the concepts they were shocked that they forgot	5 min
Tutoring = Q & A		5-10 minutes

After session comments/thoughts:

References

Talaro, Kathleen Park and Barry Chess. (2014). *Foundations in Microbiology* (9th ed.). New York: McGraw-Hill Science/Engineering/Math, (pp. 1-287; 322-793).

*Most activities are adaptations of the SI Strategy Cards from the International Center for Supplemental Instruction located at UMKC and may be found in:

Leader Resource Manual for Supplemental Instruction (SI). (2004). Amanda McDaniel, ed. University of Missouri – Kansas City.