



Medical Intervention



Welcome to the PLTW Medical Intervention Course!

Mrs. Summers has a BS in medical technology, a Masters degree in Business Administration, and has worked for more than 13 years in the field of biotechnology. Together we will investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family.

FAILURE IS NOT AN OPTION!

The following grading scale will be used:

Tests	40%
Projects / Participation	30%
Quizzes	20%
Homework	<u>10%</u>
	100%

There are a lot of labs and projects in this course and it is imperative that you are in class as most labs will not be able to be made up.

It is YOUR responsibility to get all notes and assignments, as well as make up all tests and quizzes within 5 days of missing class.

All students start the year with an A. Your job is to keep it! Pay attention during class and study for your tests and you will keep your A. I will be available for after school tutorials.



CALLING MRS. SUMMERS

The best way to reach Mrs. Summers is by email: karen.jaeger@cms.k12.nc.us

main phone #: 980-343-5992

Parents: please provide me with an email address for updates.

Grading Scale

100 – 93	A
92 – 85	B
77 – 84	C
70 – 76	D
below 70	F



Supply List for Medical Intervention

The following supplies will be needed for a successful year:

- 3 ring 2" notebook
- notebook paper
- pens and pencils (every day to class)
- markers or colored pencils
- index cards (100 – 200)
- Signed Syllabus (kept in notebook)

Tardies

The tardy policy will strictly follow the school policy. If you should arrive late go directly to the "tardy log", sign in and leave your pass on the table next to the log. Your reason for tardiness should be entered on the log and should be specific... not simply, "I was late".

I will check for these items on third day of class. This will be your first assignment. Remember you are trying to keep you're A. Please let me know if you are having trouble securing these items.

Announcements over the PA System

No matter what is going on in class, when someone comes on the PA system all talking and activity ceases!

Study Tips for Success

1. Read through your notes each evening
2. Write down important concepts and terms on index cards for review on the bus, during lunch and at night before bed
3. Outline material covered during class and use Cornell notes if possible
4. READ the assigned material so you will be prepared.

CLASSROOM MANAGEMENT

No set of rules is all inclusive. I believe the following 6 points will lead to success in my class and in life!

1. **Be prepared** – bring your materials to class daily.
2. **Be on Time** – avoid tardiness and turn in assignments when they are due.
3. **Be present and participate** – pay attention in class; share your ideas, questions, thoughts, and brilliant insights!
4. **Be respectful and safe** – treat other people, materials, and equipment with consideration and follow all guidelines provided by the teacher.
5. **Be honest / have integrity** – no cheating, plagiarism, falsifying data or lying.
6. **Adhere to the rules and policies** – follow all dress, food, behavior, and electronic device rules as required.



No food or drink in class!
We are in a working laboratory and for safety reasons there will be no food or drink allowed in the classroom.



Student signature: _____

Parent signature: _____

Parent Email for updates: _____

Course Topics

Unit One: How to Fight Infection

Lesson 1.1: The Mystery Infection

- Activity 1.1.1 - Medical Interventions Inventory
- Activity 1.1.2 - Investigating an Outbreak
- Problem 1.1.3 - Using DNA to Identify Pathogens
- Activity 1.1.4 - What's the Concentration?
- Activity 1.1.5 - ELISA
- Activity 1.1.6 - Final Diagnosis

Lesson 1.2: Antibiotic Treatment

- Activity 1.2.1 - Antibiotic Therapy
- Project 1.2.2 - Attack of the Superbugs
- Activity 1.2.3 - When Antibiotics Fail

Lesson 1.3: The Aftermath: Hearing Loss

- Activity 1.3.1 - Good Vibrations
- Activity 1.3.2 - Can You Hear Me Now?
- Activity 1.3.3 - Cochlear Implant Debate

Lesson 1.4: Vaccination

- Activity 1.4.1 - Disease Prevention Through Vaccination
- Activity 1.4.2 - Vaccine Development
- Activity 1.4.3 - Life of An Epidemiologist

Unit 2: How to Screen What Is In Your Genes

Lesson 2.1: Genetic Testing and Screening

- Activity 2.1.1 - Chronicles of a Genetic Counselor
- Activity 2.1.2 - Copy Your Genes
- Activity 2.1.3 - Test Your Own Genes
- Activity 2.1.4 - Genetic Testing
- Activity 2.1.5 - Maternal and Child Health

Lesson 2.2: Our Genetic Future

- Activity 2.2.1 - Gene Therapy
- Activity 2.2.2 - Reproductive Technology

Unit Three: How to Conquer Cancer

Lesson 3.1: Detecting Cancer

- Activity 3.1.1 - Who is Affected by Cancer?
- Activity 3.1.2 - Diagnostic Imaging Career Activity
- Activity 3.1.3 - When Cells Lose Control
- Activity 3.1.4 - DNA Microarray
- Activity 3.1.5 - Unlocking the Secrets in Our Genes

Lesson 3.2: Reducing Cancer Risk

- Activity 3.2.1 - Am I at Risk?
- Project 3.2.2 - Skin Cancer Prevention
- Activity 3.2.3 - Breast Cancer Screening & Prevention
- Activity 3.2.4 - Virology Career Activity
- Activity 3.2.5 - Routine Screenings

Lesson 3.3: Treating Cancer

Activity 3.3.1 - Diary of a Cancer Patient

Project 3.3.2 - Biofeedback Therapy with EKG

Project 3.3.2 – Biofeedback Therapy with Hand Grip Monitors (Alternative for Project 3.3.2 Biofeedback Therapy with EKG)

Project 3.3.3 - Design of a Prosthetic Arm

Project 3.3.4 - Occupational and Physical Therapy Careers

Lesson 3.4: Building a Better Cancer Treatment

Activity 3.4.1 - Personalized Medicine

Activity 3.4.2 – Nanofuture

Activity 3.4.3 - Clinical Trials

Project 3.4.4 - Tiny Treatment

Unit Four: How to Prevail When Organs Fail

Lesson 4.1: Manufacturing Human Proteins

Activity 4.1.1 - All About Insulin

Activity 4.1.2 - Protein Factories

Activity 4.1.3 - Protein Purification

Activity 4.1.4 - Protein Gel Electrophoresis

Activity 4.1.5 - Careers in Biomanufacturing

Lesson 4.2: Organ Failure

Activity 4.2.1 - Medical Detectives

Lesson 4.3: Transplant

Activity 4.3.1 - Who Should Receive the Organ?

Activity 4.3.2 - Finding a Match

Activity 4.3.3 - Kidney Donation

Activity 4.3.4 - You Be the Surgeon

Activity 4.3.5 - Transplant Team

Activity 4.3.6 - Are All Transplants the Same?

Lesson 4.4: Building a Better Body

Activity 4.4.1 - Replacement Parts

Problem 4.4.2 - The Bionic Human

Activity 4.4.3 – Putting it all Together

Website Address: www.inetteacher.com, Teacher: **Jaeger** or click on the link below

<http://www.inetteacher.com/Section2.aspx?uid=103605&sid=203112&pgid=0&secid=17524>

or see my wiki page: <http://karensommers.cmswiki.wikispaces.net>