

SAN JOSE STATE UNIVERSITY  
**Justice Studies 122 - Narcotic and Drug Abuse**  
*Fall 2005*  
Sec. 2: Tu/Th, 0730-0845, MH Rm. 520

**Lecturer:** Sharon Grennan

**Office Hours:** MH 527, Tu/Th, 1030-1200 hrs.

*\* By arrangement*

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**Course Description**

This course will generally concern itself with examination of the drug problem, particularly as it relates to practitioners in criminal justice and health sciences. Class participants will be exposed to areas of drug history, classification, identification, pharmacology, and current trends. Current research in the field of chemical dependency will be presented.

This course will also deal to a large extent with the physical, psychological, social and legal ramifications of drug abuse and addiction; including areas of enforcement, education, recovery, and treatment. Students will be introduced to such treatment modalities as: local community based drug treatment programs, narcotic replacement therapies, and recovery peer support groups. Other areas of concern will include the study of decriminalization, harm reduction, and legalization

**Course Objectives**

Students will acquire a basic knowledge of drugs, their classifications, and identification of drug use. Students will become familiar with current social problems precipitated by drug abuse and addiction, including areas of intervention and treatment. Students will also gain insight into the reasons why people abuse drugs and how society and the criminal justice system respond to such abuse. Students will gain an understanding of contemporary drug laws, such as Proposition 36, designed not only to reduce drug abuse, but to also treat individuals who are chemically dependent.

**Student Evaluation**

	<b><u>Points</u></b>	<b><u>Due Date</u></b>
1 <sup>st</sup> Midterm Exam	100	09/22/05
2 <sup>nd</sup> Midterm Exam	100	10/27/05
Class Project #1	50	10/13/05
Class Project #2	50	11/15/05
Extra Credit	20	12/01/05
Final Exam	100	12/13/05

All tests will consist of multiple choice and true & false questions. Use Scantron #882.

**Note:** All written assignments and tests should be completed on time. No make-ups will be allowed unless the absence was necessitated by an emergency or prior arrangement.

### **Required Reading**

Inaba, Darryl, Pharm.D. and William E. Holstein, Ph.D. UPPERS, DOWNERS, ALL-AROUNDERS, 5<sup>th</sup> Edition. Ashland, Oregon: CNS Publications, Inc., 2004.

### **Textbook Readings: 1<sup>st</sup> Midterm**

- Chapter 1 Psychoactive Drugs: History and Classification
- Chapter 2 Heredity, Environment, Psychoactive Drugs
- Chapter 4 Downers: Sedative-Hypnotics only, **NOT** Opiates/Opioids)
- Chapter 5 Downers: Alcohol

### **Textbook Readings: 2<sup>nd</sup> Midterm**

- Chapter 3 Uppers: Cocaine/Amphetamine/Methamphetamine
- Chapter 6 All Arounders: LSD/Club Drugs, etc.
- Chapter 7 Inhalants/Steroids/Other Addictions

### **Textbook Readings: Final Exam**

- Chapter 4 Downers: Opiates/Heroin
- Chapter 6 All Arounders: Marijuana
- Chapter 9 Treatment
- Chapter 10 Mental/Emotional Health and Drugs

### **Field Paper/Family History**

Students will complete two (2) experiential papers, choosing from several options. Students will be afforded an opportunity to attend either a 12-Step Meeting, attend a Drug Treatment Court graduation, or write your family drug or alcohol history. The field paper will expose students to outside programs that assist substance-abusing individuals in remaining clean and sober, and law-violation free.

*Spelling or grammatical errors will result in point deductions.*

### **Extra Credit**

This research paper will consist of an 8-10 page paper using the American Psychological Association (APA) format. Clear your topic with the instructor in advance. A maximum total of 20 points will be allowed. Spelling or grammatical errors will result in point deductions.

**SAN JOSE STATE UNIVERSITY**

**Class schedule- JS 122- Fall, 2005**

Lecturer: Sharon Grennan

Note: Subject to change

**August**

25 Introduction/Class Syllabus/Handouts/This & that

30 Scope of the problem/Historical Perspectives

**September**

1 Drug Classifications/Definitions

6 Brain Basics

8 Addiction Theories

13 Downers/GHB

15 Alcohol  
*\*\*Midterm study guide*

20 Alcohol

22 **1<sup>st</sup> Midterm**

27 Cocaine  
*\*\*Midterm review*

29 Crack Cocaine

**October**

4 Uppers/Amphetamine/Methamphetamine

6 Methamphetamine

11 Other Uppers

13 **Guest Speaker**  
*\*\*1<sup>st</sup> Paper due*

18 Inhalents/Steroids

20 All-Arounders/LSD/PCP  
*\*\*Midterm study guide*

25 Club Drugs/Ecstasy

27 **2<sup>nd</sup> Midterm**

**November**

- 1      Marijuana  
      \*\*Midterm review
- 3      Medical Marijuana
- 8      Downers/Opiates
- 10     Downers/Heroin
- 15     *Guest Speaker*  
      \*\*2<sup>nd</sup> Paper due
- 17     Dual Diagnosis/HIV-AIDS
- 22     *No Class-Outside projects*
- 24     *Thanksgiving*
- 29     Treatment

**December**

- 1      *Guest Speaker*  
      \*\*Extra paper due
- 6      War on Drugs  
      \*\*Possible Guest Speaker
- 8      *Last day of class/closure*  
      \*\*Final study guide
- 13     *Final Exam 0715-0930 hrs.*

SAN JOSE STATE UNIVERSITY  
JS 122 - Narcotic and Drug Abuse: Fall, 2005  
Field Paper/Family History Handout

You may choose between **three (3)** options for your **two (2)** required experiential papers. See Class Syllabus for due dates.

**\*\*Note: One paper MUST be either Option #1 or #2.**

**Option #1- Field research reflection paper** - Type a **three (3) page**, double-spaced paper on what you saw, heard, and felt about the following experience: Meeting information will be provided.

Attend one (1) **12 step-meeting peer support group**: Location information will be provided. You may choose any meeting that is not marked as "closed". All meetings are anonymous and papers should be written from memory, not from notes taken.

**Alcoholics Anonymous**

**Narcotics Anonymous**

**Marijuana Anonymous**

**Cocaine Anonymous**

**Al-Anon**

**\*\* Note: On-line meetings are NOT acceptable for this experience.**

**Option #2- Field research reflection paper**- Type a **three (3) page**, double-spaced paper on what you saw, heard, and felt about the following experience.

Attend one Drug Treatment Court graduation held in Superior Court. Times and location will be provided in class.

**Option #3- Reflection on Family Alcohol/Drug History** - Type a **four (4) page**, double-spaced paper on your family history. This exercise is confidential and will be returned to you. The format may include, but not limited to, any of the following:

1. If you know your family history, are there any relatives, distant or otherwise, which were thought to have issues with alcohol and/or any other drugs? This includes nicotine, prescribed medication, and any over-the-counter medication. This might be a grandparent on either side of your family, or Uncle Joe or Aunt Mary. Were they identified as an alcoholic or addict, or just known to imbibe or use sporadically?
2. Within your immediate family, is there any history of the above? What messages were you given growing up regarding any use of alcohol and/or any other drugs? Was this forbidden, considered something that would bring shame to the family, or was use considered normal behavior? Was this talked about in your family?
3. What are your own personal experiences and attitudes regarding use or abuse of alcohol and/or other drugs?

**\*\*Spelling and grammatical errors will result in a point deduction.**

## **12-Step Meeting Location Information**

*\*\* On-line meetings are not acceptable for this assignment*

### **AA-Alcoholics Anonymous**

Phone #: 408-374-8511

Web site: *www.aasanjose.org*

### **AL-Anon-Family & Friends of Alcoholic**

Phone #: 408-379-1051

Web site: *www.ncwsa.org*

### **CA-Cocaine Anonymous**

Phone #: 408-496-9107

Web site: *www.ca.org*

### **MA-Marijuana Anonymous**

Phone #: 408-450-0796

Web site: *www.marijuana-anonymous.org*

### **NA-Narcotics Anonymous**

Phone #: 408-998-4200

Web site: *www.sjna.org*

# SJSU – Justice Studies 122, Sec. 1

## Narcotics & Drug Abuse

Sharon Grennan

Lecturer

### Lesson Plan : Scope of Problem

#### Research-CASA 1998

- 1.7 million incarcerated (2000)
- 1.4 million-substance use disorder
- 1996-38 billion to build and maintain 4,700 prisons
- Last decade-CA-1 college, 15 prisons
- 21%-influence alcohol
- 3%-cocaine

#### Alcohol

- Over 100,00 related deaths-U.S.
- 12-17 age group
- 9 yrs. Old, 4<sup>th</sup> grade-Introduction
- Women and dependency
- Fetal Alcohol Syndrome

#### Tobacco

- 3 million worldwide die
- U.S.-over 400,000
- Increase 12-17 yr. Olds.

#### Beliefs and Attitudes

- Who abuses alcohol & other drugs?
- Why do people use alcohol & other drugs?
- Premise: “Drug taking is bad. I drink alcohol...therefore, alcohol is not a drug.”
- List of good/bad drugs
- Most harmful/least harmful

### Lesson Plan : Historical Perspective

#### • Early years

- Gallo Bros/Joy Plant

- Cocaine Mummies
- **1800's**
  - Opium Wars-Laudanum
  - Civil War-Morphine
  - Bayer Co.-Heroin
  - Freud-"Coca Papers"
- **1900's**
  - Harrison Narcotic Act-1914
  - Reefer Madness

### **Lesson Plan : Drug Classification**

- **Degree of medical effects on body**
- **Acute**
  - Short-term/limited dose
  - Heart attack, seizures
- **Chronic**
  - Long-term/prolonged effect
  - Heart/lung/liver
  - Post-Drug Impairment Syndrome
- **Uppers-Stimulants**
  - CNS-Central Nervous System
  - Euphoria
- **Downers-Depressants**
  - CNS-Central Nervous System
  - Relieves stress
  - Induces sleep
- **Sedative-Hypnotics**
  - Barbiturates
    - Mild sedation to coma dose
  - Benzodiazepines
    - Reduces anxiety
    - Fewer side-effects
  - Alcohol
    - Sedates-irritates

### **Lesson Plan: Classification, cont.**

- **Opiates-Narcotics**
  - CNS-Central Nervous System

- Relieves pain/induces sleep
- Natural/synthetic
- **Hallucinogens/Psychedelics**
  - Alters sensory processing
  - Perceptual disturbances
  - PCP-any category*
- **Inhalants-Solvents**
  - Neuro-toxic
- **Handouts**
  - Drug Classification
  - Schedule of Drugs

### **Lesson Plan - Definitions**

- **What is a drug?**
  - Chemical substance
  - Physical, mental, emotional change
- **What is a psychoactive drug?**
  - Alters functioning-CNS
  - 4,000 plants, 8,000 patents
  - Licit, illicit
  - Prescription/OTC
- **What is drug misuse?**
  - Inappropriate/unintentional use
- **What is drug abuse?**
  - Intentional/inappropriate use with physical, mental, emotional, financial, or social consequences
- **What is addiction?**
  - Chronic, progressive, relapsing, incurable, and potentially fatal condition
  - Consequence of genetic irregularities
- **Route of Administration**-How quickly drugs travel to CNS
  - Orally
  - Snorting
  - Injecting
  - Inhaling
- **Poly-abuse**
  - More than one drug-the norm
- **Dependence**
  - Cellular adaptation

- Absence the drug-physical withdrawal
- **Tolerance**
  - More drug-less effect
  - Tissue resistance
- **Synergism**
  - Whole is greater than the sum of its parts
- **Metabolism**
  - Terminating effects of the drug in the body
- **Excretion**
  - Elimination through the kidneys
  - Implications for drug testing
- **Blood Brain Barrier**
  - Selective filter
- **Weight**
  - Drug laws-categorized by weight
  - Controlled Substance Act of 1970-
    - Health & Safety Code (California)

### **Lesson Plan: Brain Basics-Neuroanatomy**

- **Psychopharmacology**
  - How psychoactive drugs affect CNS
  - Mimic or interfere
  - Overexcite or depress
- **Neuroanatomy**
  - Mechanism in which messages are transmitted by CNS
  - 100 billion neurons-brain cells
  - 100 trillion possible connections
- Behavior depends on this communication-neuron to neuron
- **Old Brain-reptilian, clumsy**
  - Medulla
  - Cerebellum
  - Nucleus Accumbens
  - Inferior Colliculus
  - Superior Colliculus
- **New Brain**
  - Cerebral Cortex

- **Neurotransmitters**-biochemical's that transmit message from one neuron to another
  - 60-100 NT's
- **Neurotransmission**-Relay of information between neurons
  - Within neuron-electrical
  - Between neurons-chemical
  - Synaptic gap-distance between neurons
  - Agonist
  - Antagonist
- **Bill Moyers-*The Hijacked Brain***
  - Dopamine levels depleted
  - Paranoia/psychosis-drug induced
  - No control-compulsive
  - Anhedonia
  - Pleasure Circuit-brain remembers
  - Nucleus Accumbens

### **Lesson Plan : Theories of Addiction**

*“All theories are relevant to some degree. Rigid views limit the scope of recovery.”*

- Moral Theory
- Psycho-Analytic Theory
- Personality Theory
- Behavioral Theory
- Social/Cultural Theory
  
- **Addictive/Disease Theory**
  - Chronic, progressive, relapsing, incurable, potentially fatal
  - High susceptibility/liability
  - Genetic Predisposition
  - Loss of Control
  
- **Bio, Psycho, Social Theory- Risk Factors**
  - **Bio**-genetic predisposition, heredity, physiology
  - **Psycho**-personality, psychiatric condition, self-esteem, life events
  - **Social**-cultural environment, peer pressure, learned behavior

- **Symptoms** of the disease of addiction-both physical and psychological
  - Craving
  - Compulsion
  - Continued use in spite of negative consequences
  - Denial
  - Tolerance
  - Dependence
  
- **Pattern/Progression of use**
  - Experimentation
  - Social/Recreational
  - Habituation
  - Addiction/Disease

### **Lesson Plan : Depressants**

- Anxiety disorders-the most common form of mental illness
- **Barbiturates**-powerful CNS depressant
  - Treat insomnia, anxiety, tension
  - Prevents or mitigates epileptic seizures
  - Tolerance builds quickly
  - Interrupts R.E.M. sleep
  - Impairment of memory, judgment
  - Cross-tolerant
  - Withdrawals can cause medical emergency
  
- **Benzodiazepines**-”magic bullet”
  - Produces sedation/induces sleep
  - Relieves anxiety, muscle spasms
  - Develops tolerance more slowly
  - Risk: extended time-high dose
  - Risk: mix with alcohol
- **Methaqualone**-”Ludes”
  - No legal medical use
  - Scored with “714”
  - Method of use-mix with alcohol

- **Rohypnol-”roofies”**
  - Benodiazepine family
  - 10x more potent
  - Hoffman-LaRoche-no medical use
  - Symptoms-withdrawals
  - Anterograde Amnesia
  - Scheduled Drug
- **GHB-Gamma Hydroxy Butyrate**
  - *Blue nitro, Georgia Home Boy, greivous bodily harm, liquid E, easy lay*
  - Scheduled Drug
- **Potential for abuse**
  - Clear, odorless, slightly salty taste
  - Date-rape drug
- **Symptoms**
- **Withdrawals**

### Lesson Plan : Alcohol

- **Alcohol, Ethel Alcohol, Ethanol**
  - Statistics
- **Facts:**
  - CNS depressant
  - Irritates & Sedates
  - Lowers inhibitions
  - Alters mood, feeling, coordination, perception, & behavior
- **Impact on the Brain**
  - Frontal Lobe
  - Cerebellum
  - Medulla Oblongata
- **Blood Alcohol Concentration (BAC)**
- **Rate of Absorption**
  - Factors
- **Metabolism**
  - Time factor
  - DMV Legal Limit
- **Penalties**
  - DUI

- **Fetal Alcohol Syndrome (FAS)**
  - Facts
  - Risk factors
  - Features

## **Lesson Plan -Alcohol, Binge Drinking**

- **Prevalence of drinking**
  - Per capita consumption
  - Heavy drinking
    - Age, ethnicity
- **Social**
  - Low B.A.C.
  - Reasonable intervals
  - Take it or leave it attitude
- **Problem**
  - Family, legal, employment, \$,physical
- Alcoholic-10-12% pre-disposed
  - Loss of control
  - Craving
  - Compulsion
  - Tolerance
  - dependence
- Signs of Alcoholism
- Signs of alcohol withdrawal
- Binge Drinking-48 Hrs.
  - 4-5 drinks at a sitting
  - 10 million underage drinkers
  - Risk of teenage drinking

Mid-term review

## **Lesson Plan : Cocaine**

- **Cocaine-Erythrozylon Coca**
  - Most powerful CNS stimulant
  - Schedule II Drug

- **2001-National Household Survey**
  - Current cocaine users 2001 vs. 1985
  
- **National Household Survey/D.A.W.N. Drug Abuse Warning Network-E.R. Episodes**
  - 2000-2001
  - Gender
  - Ethnicity
  - Trends
  
- **Freud & the Coca Papers-1884**
  - Cure for morphine addiction
  - Coca-Cola-"temperance drink"
    - 60 mg. Cocaine per 8 fl. Oz.
  
- **Cocaine Epidemics**
  - 1886-1891-Europe
  - 1894-1891-Europe & U.S.
  - Mid-1980's-U.S. (crack cocaine)
- **Cocaine Processing**
  - 100-150 kilos (kilo+2.2 lbs.) of drug leaves produces 1 kilo pure pasta
  - Mixed w/ diesel fuel, lime, bicarbonate
  - "Stepped on", cut with adulterants
  - 1998-454 metric tons (1,000 kilograms/ 2,204.6 lbs.) shipped into U.S.
  - 1 gram \$40-150
  
- **Neurotransmission**
  - Dopamine, Norepinephrine, Serotonin pathways
  - Dopamine-pleasure/reward center
  - Blocks Dopamine re-uptake
  - Energy supplies depleted
- **Route of Administration**
  - **Snorting** (intranasal) most common
    - 5% of cocaine absorbed
    - Septal Necrosis- destroys cartilage separating nostrils
    - Lung infections common
  
  - **Injecting** (Intravenous) least common
    - Cocaine hydrochloride (powder) mixed w. water & injected into vein
    - Quicker route to the brain-rush
    - Risk of HIV-AIDS, inflammation of heart lining (endocarditis), hepatitis
    - Speedball-injecting mixture of cocaine \* heroin

- **Freebase-1970's**
  - Separating molecules using Ether-volatile
  
- **Inhaling Smokeable Cocaine-Crack**
  - Dirty-basing
  - Cocaine Hydrochloride cooked with sodium bicarbonate & adulterants- lower temperature
  - Quick route to the brain-powerful reinforcement for compulsive use
- **Rate of Absorption**
  - The faster the absorption, the more intense the high and shorter the duration
  
- **Short-term effects**
  - Euphoric
  - Constricted blood vessels
  - Dilated pupils
  - Increased BP, heart rate, temperature
- **Long-term effects**
  - Addiction/Dependence
  - Mood disturbances
  - Cardiomyopathy
  - Formication Syndrome- “coke bugs”
- 11350 H&SC; 11550 H&S

### **Lesson Plan -Crack Cocaine**

- **Smokeable Cocaine-Crack**
  - mid-80's
  - Converting Cocaine Hydrochloride
  - Cook and broken into “rocks”- 0.89 grams each approx.
  - 75-90% pure
  - \$3-40-rock or vial of crack
- **Inhaling-efficient route of administration**
  - Fat soluble
  - Prone to binge use
  - 50 rocks/day-1/20<sup>th</sup> a gram-\$5-20 each
  - Per gram, crack costs twice the price
  
- **Side effects**
  - More intense
  - Respiratory problems
  - Tachycardia
  - Seizures/stroke

- **Crash**
  - Sleep for days
  - Anhedonia
  - Anergia
  
- **Cocaethylene**
  - Mixing cocaine & alcohol
  - Intensifies euphoric effect
  - Risk of sudden death
  
- **Current research- “crack” babies- National Institute of Drug Abuse-1999**
  - Fetal cocaine exposure
  - What stage of development
  - Developmental issues

### **Lesson Plan : Amphetamines/Meth**

- **Amphetamine/Methamphetamine**
  - CNS stimulants-Speed, Crank, Crystal, Ice
  - Schedule II Drug
  
- **History**
  - Analog of Ephedrine
  - 1927-medical use
  - WWII
  - 1960's-1970's-weight loss, truckers, bikers, students
  - 1967-Summer of Love
  - Operation Desert Storm-1991
  
- **Neuropathway**
  - Norepinephrine
  - Dopamine
  - Serotonin
  
- **Side-effects**
  - Dilated pupils/increased blood pressure
  - Rapid & irregular heart beat
  - Hyper-pyrexia-body temperature higher than 104 degrees
  - Weight loss- anorexia
  - Involuntary body movements
  - Tinnitus
  - Aggression
  - Paranoid delusions
  - Stimulant induced psychosis

- Visual hallucinations
- Handouts
- Video: *Rush to Crash*

### **Lesson Plan – Methamphetamine**

- Drug Abuse Warning Network (DAWN)
  - ER episodes for Methamphetamine distress-
  - Trends
- High Intensity Binge Use
  - Binge cycle
  - Withdrawal
 Video: MTV: *Meth Madness/Tweaked*

### **Lesson Plan - Other Stimulants**

- **Ritalin-Methylphenidate**
  - Schedule II Drug
  - Amphetamine analog
  - Powerful stimulant
  - 2-3% elementary students
  - More than 2 million prescriptions
  - 500% increase
- **Attention Deficit Hyperactivity (ADHD)**
  - 3 times more prevalent in boys
  - Symptoms-outside of school
  - Symptoms-at school
  - Ritalin works paradoxically
  - Not first treatment of choice
- **Khat, Cat, Cathinone(active ingredient)**
  - Milder stimulant
- **Methcathione**
  - Synthetic version
  - Main raw ingredient-Ephedrine
- **Ephedrine**
  - Ephedra bush
  - Controlled by Federal Gov't
  - Extracted as ingredient for Meth

- **Nicotine Statistics**
    - Over 400,000 related deaths
    - \$50 billion in health care costs
    - 1995- 62,000 deaths from lung cancer; 46,000 deaths from breast cancer
    - Deaths from secondhand smoke
  - **Nicotine**
    - Powerful stimulant
    - 10mg. Nicotine per cigarette
    - 7-15mg. Tar
    - Dozen gases-carbon monoxide
  - **Neuropathways**
    - Norepinephrine
    - Acetylcholine
    - Dopamine
    - Physical complications
  - **Hooked in 4 hrs.**
  - **Research animals**
  - **Drug abusers and tobacco**
- 
- **At risk populations**
  - Bidi's
  - Caffeine
    - Chemical compound found in over 60 species of plants
    - Prevalence of caffeine consumption
    - Tolerance and dependence
    - Acute effects of caffeine
- 
- **Inhalant Classification/Features**
    - Depressive/Hallucinogenic
    - Lipid soluble
    - Neuro-toxic
    - Dopamine Neuropathway
    - Statistics-Monitoring the Future Survey
      - 6% of U.S. children used by 4<sup>th</sup> grade
      - More boys than girls-grades 4-6
      - Higher in Native American youths

- Risk Factors
- Graffiti-tagging
- **Volatile Solvents**
  - Vaporize at room temperature
  - List of chemicals
  - Toluene-active ingredient
    - 381(a) PC-Possession, misd.
- **Aerosols**
  - Contain propellants & solvents
  
- **Gases-Anesthetics**
  - Dissociative effect
  - Nitrous Oxide-"laughing gas"
    - 381(b) PC-Possession, misd.
- **Nitrites**
  - Dilate blood vessels
- **Methods of use**
  - Sniffing
  - Huffing
  - Bagging
  
- **Effects**
  - Intoxication
  - Euphoria
  - Impaired judgment
  - Violent behavior
  - Delusions
  - Damage to heart, lungs, liver, kidneys
- **Sudden Sniffing Death Syndrome**
  - Asphyxiation
  - Suffocation
  - Choking
  - Loss of consciousness
  
- **Recognizing inhalant abuse**
  - Chemical odor
  - Paint on hands, face, clothing
  - Drunk or disoriented appearance
  - Slurred speech
  - Nausea or loss of appetite
  - Inattentiveness, lack of coordination, irritability, depression

## Lesson Plan : Steroids

- **Steroids**
  - Synthetic derivatives-testosterone
  - Androgenic
  - Anabolic
- **Statistics**
- **Medical Uses**
  - Anemia
  - Breast, testicular cancer
  - Nasal spray
  - Tissue re-growth
  - Inadequate testosterone production
  
- **Competitive Edge?**
  - Increase muscle mass
  - Ability to train longer
  - Research-improvement
  - Black market
- **Federal Laws**
- **Route of Administration**
  - Orally
  - Injecting
  - “Stacking”
  - “Cycling”
  
- **Risks**
  - Compulsive use
  - Loss of control
  - Liver tumors
  - “roid rage”
  - Men-side effects
  - Women-side effects
- Androstenedione
- Creatine

## Lesson Plan: LSD, PCP & other Hallucinogens

- **Lysergic Acid Diethylamide-LSD-25**
  - Potential to produce hallucinations
  - Alters thoughts, perception & feelings
    - Albert Hoffman-1938
    - Fungus “ergot”
    - Timothy Leary-1960’s

- “Tune in, Turn on, Drop out”
  - Operates on Serotonin NT
  - Tolerance builds quickly-no known dependence
  
- **Perceptual side-effects**
  - Turns off biological filter
  - “Turns the lights up”
  - “Turns down the background”
  - Magnifies whatever’s left
    - Experienced intensely
    - Bright spark of pleasure in a dark space
  
- **Bad trip**
  - Magnification of something negative pre-existing in the brain
  - Blows up what’s there
    - Beautiful-Ugly
  
- **Dose**
  - 50-150 micrograms
    - 3 hits of 50 micrograms blotter acid-\$10
  
- **Sensory Effects**
  - Vary with dose, setting & mood
  - *Synesthesia*
  
- **Psychic effects**
  - Thought disorders
  
- **Extreme side-effects**
  - Depersonalization, acute anxiety, depression
  
- **Peyote Cactus**
  - Active ingredient- Mescaline
  - Tolerance builds quickly
  - No physical dependence
  - Used in religious ceremonies
  - Cactus button-50 milligram of mescaline
  - Synthesized- liquid, capsule, tablet
  - Effects
  
- **Psilocybin-”Magic Mushrooms**
  - Chemically similar to LSD
  - Less potent than Peyote-Mescaline
  - shorter-acting, milder
  - Consumed orally as dried mushrooms, liquid, or tablets
  - Used in religious ceremonies

- Effects
- **PCP-Phencyclidine-Angel Dust, KJ, Dust**
  - Several classifications
  - Schedule II Drug
  - History
  - White crystalline powder
  - Fat-soluble
  - Method of use
- **Effects**
  - Dissociative- protects from feelings
  - Anesthetic-feel no pain
  - Increased heart beat, BP
  - Chronic use-loss of brain function
  - Other effects....
- **Biggest risk factor:** *Unpredictable*
- **Statutes:** Health & Safety Code

### **Lesson Plan: Club Drugs**

- **Club Drugs**-MDMA (Ecstasy), GHB-Gamma Hydroxybutyrate, Ketamine, Rohypnol
- **Raves-Why and What?**
  - Underground raves-1987 G.B., Chicago, Detroit, NY
  - Techno-electronic events-up to 140 BPM
- **Statistics: Surveys**
  - 2000 Monitoring the Future Study
    - 12<sup>th</sup> graders
    - 8<sup>th</sup> & 10<sup>th</sup> graders
    - Perceived availability
- **Statistics; Surveys, cont.**
  - **D.A.W.N.**-Drug Abuse Warning Network
    - 253 -1994; 4,511-2000
  - Blacks, Whites, Hispanics
- **MDMA-Ecstasy**
  - Synthetic psychoactive drug
  - Methylenedioxymethamphetamine
  - 90% imported illegally from Netherlands-pill form
  - DEA
  - Tablets 60-120mg. \$25-40 each
  - Schedule I Drug- 1985

- **MDMA-Ecstasy, cont.**
  - Stimulant
  - Hallucinogenic
  - Neuropathways: Serotonin, Dopamine, Norepinephrine
  - Serotonin-levels depleted
    - Mood, sleep, pain, emotion, thought & memory
    - Brain Imaging Technologies
    - Linked with confusion, depression, severe anxiety, impulsive bx, sleep problems, impairment of memory & attention
    - Paranoia, psychotic episodes
  
- **Physical Effects**
  - Senses elevated
  - Dilated pupils
  - Body temperature-increase
    - “Malignant Hyperthermia”
  - Increase heart rate, BP
  - Dehydration, nausea
  - Excess energy
  - Muscle tension
  - Involuntary teeth clenching
  - Sleep disturbance
  - Drug craving
  
- **Raves-P.L.U.R.**
  - Rolling
  - Candy-flippers
  - Paraphernalia
  - Sensual not sexual
  - Massage parlor
  - Cool down room
  - Dancesafe
  
- **Ketamine**
  - Anesthetic
  - 90% veterinary use
  - Snorted, injected
  - “Special K”, Vitamin “K”
  - Raves, date rape
  - High doses

- D.A.W.N.- ER Episodes
  - 19-1994
  - 396-1999

## **Lesson Plan #17: Marijuana**

- **Cannabis Sativa**
  - Main active ingredient- **Delta-9 Tetrahydrocannabinol- THC**
    - 360 chemicals in cannabis plant
    - 60 metabolites
    - 1960's
    - 1990's, 2000's
    - B.C.Bud
    - Lipid (fat) soluble
    - Chronic users-urine test
- **1930- Marijuana Tax Act**
  
- **1970-Controlled Substance Act**
  - Schedule I Drug
- **Facts of interest re: Marijuana**
  - Biggest cash crop in U.S.
  - #1 illicit drug used in U.S.
  - Estimated 1,476 metric tons of MJ consumed in U.S.
  - Globally, 200-300 million people
  - U.S.-70 million people
  - 70 more carcinogenic compounds than tobacco
  
- **2000 Monitoring the Future Study**
  - MJ use remained stable since 2001
    - 8<sup>th</sup> graders
    - 10<sup>th</sup> graders
    - 12<sup>th</sup> graders
  - Height of use:1979-50.8%
- **DAWN-Drug Abuse Warning System**
  - 1990-17,706
  - 1999-87,150
  - Increased potency
  
- **Neuropathy**
  - Anandamide
  - Sedative & euphoric
- **Stimulatory Effects**
- **Depressant Effects**
- **Anesthetic Effects**

- Hallucinogenic Effects
- **Other Effects**
  - Diminishes ability to perform complex tasks-Research Study
- **Groups most at risk**
- **New Research**
- **Post Hallucinogenic Drug Perceptual Disorder**
- **Amotivational Syndrome**
- **Statutes**
  - D.U.I.- includes marijuana

### **Lesson Plan: Medical Marijuana**

- **Medical Marijuana**
  - 1996- California Proposition 215
    - Pro-Con
    - State vs. Federal Law
    - 11362.5 H&SC
- **Supreme Court ruling- 2001**
  - No medical necessity
  - No currently accepted medical use of MJ
  - Federal Controlled Substance Act
  - Need research
- **Medical Marijuana debate –What are the facts?**
  - Marijuana vs. Marinol (Dronabinol)
    - Handout
  - Medical efficacy
  - Pharmacodynamics of THC
  - Clinical trials
  - Safe dose
  - Limitations of Scheduling
  - Ethical dilemma
- **What do you think?**
  - Change Drug Schedule?
  - Alternative to Marinol?
  - Why conduct research?
  - Should state law rule?
  - What's the message for teenagers?
  - 1994 Study-
  - What if it was your family member or close friend?

## Lesson Plan: Opiates

- **Pain Control**
  - Chronic pain
  - 1/3<sup>rd</sup> U.S. population
  - Most common reason
- **Narcotic Analgesics**
  - *Narcotics*-Greek for *stupor*
  - Analgesic-pain relief produced w/o loss of consciousness
  - Sedating, painkilling, sleep-inducing
  
- **Natural Opiates**-obtained directly from opium
  - Opium, Morphine, Codeine
- **Semi-synthetic Opiates**-chemically altered derivatives
  - Heroin
- **Synthetic Opiates**-synthesized in laboratories-not derived from natural opiates
  - Demerol, Vicodin, Darvon, Fentanyl, Dilaudid, Percodan, Oxycontin (time-released Percocet), Methadone
  
- **Neuropathway**
  - Endorphin/Enkephalins- NT's
  - Brain's natural pain suppressors
  - Opiates further block pain receptors
  - Mimic action of NT's
- **Opium**
  - Papaver Somniferum-plant that brings sleep
  - Wizard of Ox
  - Grown in: Afghanistan, Iran, Pakistan, China, Burma, Laos, Thailand, Turkey, Columbia, Mexico
  
- **Morphine-1803**
  - Synthesized from Opium
  - 10 times stronger
  - Hypodermic needle- effective delivery system
  - Pain relief, cough suppressant, diarrhea
  - Thought to be a cure for Opium addiction
- **Heroin-1874**
  - Synthesized from Morphine
  - 3 to 10 times stronger
  - *Thought to be a cure for Morphine addiction*

- **Physical effects**-dose dependent
  - Dependence
  - Drowsiness
  - Nausea
  - Pinpoint pupils
  - Lower body temp./BP
  - Respiratory depression
  - Relaxed muscles
  - Flushed, warm face & neck
  - Dry, itchy skin
  - Constipation-
  
- **Route of administration**-Opiates easily cross BBB-fat soluble
- **Orally**
  - First pass
  - 20-30 minutes
  - Mild/moderate levels of pain
- **Intravenous**
  - High concentration-bloodstream
  - Greater control
  - 15-30 seconds
  - Skin-popping/intramuscularly-5-8 min
  
- **Prescription Drug Abuse**
  - Potential for dependency
  - Higher abuse among women
  - Forged prescriptions
    - Vicodin
- **Oxycontin**
  - High potential for abuse
  - Time-released

### **Lesson Plan: Heroin**

- **Diacetylmorphine-Heroin**
  - 1998-Leading cause of accidental death in S.F.
- **National Survey on Drug Abuse & Health-2002**
  - 166,000 heroin users-past month
  - 80% under age 26

- 2.9 Million used at least once in their lifetime
- 663,000 used in last year

- **DAWN-Emergency room episodes-2000**

- 72,217 visits (second to cocaine)
- 70% increase
- Snorting Heroin increased 470% from 1988 to 1996
- 4,178 deaths
- 39% increase for whites
- No significant increase for blacks

- **Heroin dose/purity/cost**

- *Traditionally:* 1-10%/Recently 1-98%
- \$25-1/4 gram; \$10 bag-1/8<sup>t</sup> gram
- Color varies due to impurities

- **Short-term effects**

- Tolerance builds/suppression of pain
- Depressed respiration
- Clouded mental functioning

- Nausea, vomiting

- **Long-term effects**

- Addiction
- Infectious diseases
- Collapsed veins/abscesses
- Endocarditis
- Necrotizing fasciitis

- **Heroin withdrawal**

- Vomiting/stomach cramps
- diarrhea/
- Restlessness/insomnia
- Cold flashes-goose bumps "cold turkey"
- Muscle/bone pain
- Leg movements-"kicking"

- **Overdose-Profile**

- Age/experience
- Treatment-Narcan
- 13%-released from jail 17%-novices

- **Black Tar Heroin**

- Produced in Mexico
- High purity, low cost, crude method of converting opium gum to Heroin
- 20-30% purity

- \$200 gram/\$4,000 oz.
- Diluted and injected
- **Trends**
- **Lifestyle Danger**
- **Statutes:** 11550 H&SC, 11350 H&SC, 4149 B&)

### **Lesson Plan: Dual Diagnosis**

- **Dual Diagnosis-Who?**
  - **NIH** study
    - How prevalent?
    - Substance abusers
    - Homeless
    - Criminal Justice System
    - Adolescents
    - Proper ID can lead to assessment & treatment
- **Dual Diagnosis-Definition**
  - Major mental disorders
  - Similarity in neurotransmitters
    - Specific drugs
- **Dual Diagnosis issues**
  - Asking the question the first step
  - Both disorders must be treated
  - Proper diagnosis & treatment important
  - Need observation-being an expert not important
  - Medication often effective
- **Remember:**
  - You may be the first on to ask the question.
  - Web site: [www.dualdiagnosis.org](http://www.dualdiagnosis.org)

### **Lesson Plan: HIV/AIDS**

- **Human Immuno-Deficiency Virus**
  - Breaks down body's immune system
  - T-cells
- **Acquired Immuno-Deficiency Syndrome**
  - Acquired-Something you can catch
  - Syndrome-Set of life threatening conditions
- **HIV-AIDS is not a moral issue. It's a health issue.**
  - It's not who you are, but what you do.
- **Statistics**
  - World AIDS Day-Cases worldwide

- 2002-U.S.
- 1.3 million children
- 1,000 babies
- 2002-3.1 million AIDS deaths worldwide
- 80% of deaths in Africa
- Fifth leading cause of death in U.S. ages 25-44 yrs.
- Shift to IV drug use/heterosexual unprotected sex

- **Transmission Fluids**

- Blood
- Semen
- Vaginal/cervical fluid
- Breast milk

- **Transmission Modes**

- Unprotected sexual intercourse
- IV drug use
- Blood transfusions-prior to 1985

**Risky Behavior.....HIV+**

6 weeks-6 months

**HIV+.....AIDS**

Up to 19 years ++

**AIDS.....Death**

2 years +++++++

- **Risk Factors**

- Alcohol/drugs=risky behavior
- Immune system compromised
- Judgment impaired
- Alcohol & other drugs-increased sexual behavior

- **Treatment**

- No vaccine or cure
- Combination therapies-protease inhibitors-"cocktails"
- Lifestyle change
  - Ex. Magic Johnson

- **Prevention**

- Use latex condoms-double up
- Don't shoot-Don't share
- Testing
- Web site: [www.aidsinfo.nih.gov/](http://www.aidsinfo.nih.gov/)

- **Hepatitis C-new epidemic**
  - What is Hepatitis?
  - SC Co. more than new HIV cases
  - 230,000 cases annually in U.S.
  - Similar transmission fluids-blood more effective method
  - Limited treatment-no cure, may need liver transplant

### **Lesson Plan: Treatment**

- **Goal of treatment**
  - Quality of life-recovery
  - Higher functioning
  - Sobriety is not recovery
  - One size does not fit all
  - Tx is crucial to recovery
- **Research-Rand Study**
  - Treatment is cost effective
  - Every \$1.00 spent in Tx saves \$7.00 in CJS costs
- **Thirteen Principles of Effective Drug Addiction Treatment**
  - Research-based guidelines
- **Assessment-Recovery Cornerstone**
  - Needs to be complete, accurate
  - Map provides direction
  - Can be modified as needed-flexible
- **Treatment Modalities**
  - Detox
  - Residential
  - Out-Patient
- **12-Step Programs: H.A.L.T.-striking a balance**
  - “Never get too...”
- **Narcotic Replacement Therapies**
  - Methadone-agonist
    - No magic bullet
    - Allows person to function
    - Slots into opiate receptor sites
    - Highs are less dramatic
    - Known protocols-proper dose
    - “Dose & Dash”
    - Diverted to black market

- **Naltrexone- “Revia”-Antagonist**
  - Non-addicting drug
  - Defeats the effect of opiates by occupying opiate receptor sites
  - Lessens craving and high
  - Works best with motivated clients, in addition to treatment
- **Buprenorphine-agonist & antagonist**
  - Chemically related to morphine
  - Possesses a ceiling effect
  - Greater safety profile
  - Less likely to cause respiratory depression
  
- **Rapid Opiate Detoxification**
  - Procedure lasting 4-6 hours
  - Patient given Naltrexone under anesthesia
  - Not indicated for every addict
  - Too painless?

Who deserves treatment?

- Barriers to treatment
- Does coercion work?

### **Lesson Plan: Drug Courts- Proposition 36**

- **Drug Courts**
  - \*1989-Miami
  - \*1995-Santa clara County
  - \*3,000 felony/4,000 misd. Cases
  - \*Non-adversarial approach-team
  - \*Use of coercion
  - \*High retention rate
  - \*2001-over 1,000 on Drug Court probation
  - \*Challenged the system-need buy-in
  
- **Proposition 36-California**
  - \*November, 2001-passed w/ 61%
  - \*Mandated treatment
  - \*Reduce prison population
  - \*\$120 million for treatment
  - \*No funding for drug testing
  - \*Realities of Prop 36
  - \*Are we better off?

## Lesson Plan: War on Drugs

- **Have we lost the war?**
  - Wrong terminology
  - \$\$worth the cost
  - What drugs?
  - Scientific knowledge vs. Political reality
  - Drug pusher vs. Drug companies
  - All or nothing debate
- **Legalization**
  - Making legal what is currently illegal
  - Certain illegal drugs legal
    - For who?
    - Which drugs?
  
  - What potency?
  - Who regulates
  - Who enforces
- **Decriminalization**
  - Removal of, or reduction in criminal sanctions for simple possession of drugs
    - CA-less than 1oz marijuana-misd., Fine \$
    - Prevents clogging up the system
    - Wrong message? Condone use?
    - “soft” vs. “hard” drugs
- **Harm Reduction**
  - Alternative to supply reduction strategy
  - Public health concept
    - Drug use a fact of life
    - Focus is on the harm
    - If not a cure, then care
    - Abstinence is desirable
    - Not always a realistic goal
    - Lowering addict transmission of infections diseases-needle exchanges
    - Minimize the harm, reduce crime
    - Most proponents of HR doe not favor legalization
- **Zurich, Switzerland experiment**
  - Containment of hard core users
  - Needle Park
  - Daily overdoses
  - Doctor’s stationed in the park
  - Closed in 1992
  - Addicts moved to the train station
  - 1997-Gov’t supplies heroin to enrolled addict

- Crime rate lowered
- **Dutch Drug Policy**
  - Drug use is a fact of life
  - Needs to be discouraged
  - User accountability
  - Minimize the risks
  - “soft” drugs vs. “hard” drugs
  - 1995-Possession or sale of 5 grams of Marijuana decriminalized
  - Does not apply to those under 18 yrs.
  - Lower rate of marijuana use than U.S.
- **Education/Prevention**
  - Supply is determined by the demand
  - Looking for new ways to deal with problem
  - where best to spend \$\$
- **Lessons from “Traffic**
  - Political game-addict don't vote
  - Families in denial
  - Waging war against our families
  - \$\$\$ drives the market
  - What will our legacy be?