The Human Body
Creating a Concept Map
The Molecular Basis of Drug Addiction

Use information found in your class notes and the reading assignment (The Addicted Brain by Eric J. Nester and Robert C. Malenka (Sci.Amer. March 2004) to create a concept map of the molecular basis of drug addiction.

Note: A pre-approved concept map may be used for the final exam. Concept maps used for the final exam must be:
1- no larger than letter-size paper (8 ½ x 11)
2- written on one side only
3- original (no photocopies)
4- submitted for approval no later than Dec 6

I will distribute approved concept maps at the final exam. Use of a concept map that has not been pre-approved will be considered as cheating. Students caught cheating on the final will receive a mark of zero for their final exam.

On the poster board provided:

1. Write each component of the reward pathway on the poster board (or on Post-its).
2. Use arrows to diagram the links between the different components.
3. Add the role of cAMP and dopamine to the concept map.
4. Add cocaine to the concept map – diagram its effects on the reward pathway. Clearly distinguish between a normal reward pathway and one influenced by cocaine.
5. Add heroin to the concept map – diagram its effects on the reward pathway. Clearly distinguish between a normal reward pathway and one influenced by heroin.
6. Add the role of CREB and dynorphin to the concept map.
7. Diagram how tolerance can develop
8. Add the role of delta-FosB and glutamate to the concept map.
9. Diagram how sensitization can develop.