What is the 2016 Lehigh GRaD Experience?

The GRaD Experience will be held one day during Alumni Weekend (May 20-22, 2016) location and time will be determined at a later date.

WHAT?

This experience is meant to showcase the remarkable research conducted by Lehigh’s graduate students in every field. The stations at the GRaD Experience should promote knowledge of broad concepts in your field of research.

WHO?

Our audience will be inquisitive folks of all ages with little to no background in your field of study. The goal is to communicate your research field to the public in a clear and concise way using hands-on demonstrations.

WHY:

The benefits for graduate students and their labs are significant. First, writing a lesson plan and explaining your research to kids (age group 8-12 years old) and their non-expert parents is a critical skill regardless of what work you pursue.

Second, if your lab is applying for federal grants, such as the NIH and/or NSF, this fair will satisfy the community outreach requirement found in the grant application.

- There will be a total 16 tables (4 per college). More than 1 person per table are welcome (limited to 4 per team).
- The team leader will give a two minutes (or less) presentation followed by 5-6 minutes of a hands-on activities with a few minutes for questions. These activities will repeat for the duration of the event.

If you or your lab are interested in the GRaD Experience, please send following requirements to nig210@lehigh.edu by Feb 19.
Proteins are a lot like Legos; they’re built from small building blocks called amino acids, their final shape determines what kind of job they’ll do, and they are built from a set of instructions. Instead of a Lego instruction book though, the instructions for how to put proteins together are encoded into the DNA that’s kept in the nucleus of the cell. Every time a cell divides it must copy all of its DNA so that each new cell will have a copy. Now, suppose I went to every person in this room and handed them these Lego instructions and told them they had five minutes to copy down all the instructions onto a new sheet of paper. What would happen? Would everyone copy it perfectly? There would almost certainly be some mistakes. Some people might misspell a word, make a typo, or even skip a whole word. The same thing happens when cells copy DNA. Scientists estimate that for every 100,000 DNA bases a cell copies, it makes 1 mistake. There are all sorts of proteins that double check the DNA for mistakes but even still some mistakes don’t get fixed. When a mistake occurs in the copying of DNA that does not get fixed, that is called a mutation. If I made a mistake when copying the Lego instructions here, it might change the way the Lego structure that I’m building will turn out. The same thing is true of mutations. Since DNA are the instructions for how to build proteins, a change in the DNA sequence of a protein might change how that protein gets built.

**3. Open your box and find your starting structure.**
2. Place both A blocks opposite one another on top of the blue blocks as pictured below.

3. Place the B block on top of one of the remaining blue blocks as pictured below.

4. Place block D or C (depending on kit) on the top of block C as pictured.

or

5. Place the new DC block on top of the remaining blue blocks as pictured below.

You’re done! Now hold your protein and buzz around like a bowfly!!!
1. Team Name: Widows, Wives, and Old Maids
2. Team Leader: John Smith (jds314@lehigh.edu)
3. Team members: Team member 1 (tem1@lehigh.edu) Team member 2 (tem2@lehigh.edu)
4. Estimated Budget:

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<th>Total Item Cost</th>
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5) Station details
a) Station Title: Why Do Novels Talk About Marriage So Much?
   b) Station Topic (What is the overarching subject of your station?)
      i) British Literature

6) Summary of station
   a) The goal of this station is to teach the historical conditions linking marriage to women's social living conditions. Students will learn about the financial and legal repercussions of marital status for wives, orphaned young maids, spinsters, fallen women, and widows to consider the equality and fairness. Surprising conclusions, such as that spinsterhood had the potential to actually afford greater financial independence for women, will encourage participants to think about our assumptions about gender and society, as well as how this historical context laid the groundwork for our current sex/gender system.

7) Presentation script (2 minutes in length)

Good morning! My name is John. Today we will be looking at how marriage works in novels. You'll be surprised that a significant number of novels from the period 1700-1900, were obsessed with marriage. For example, Pride and Prejudice or Jane Eyre, or even the TV show Downton Abbey. But what was it like for a woman who was married?, spinster? considered "too old" to get married, widowed but getting remarried?, And so on. In modern times, if you think about why people you know get married, it is mostly because two people like each other a lot and want to spend their lives together. However, It gets a lot more complicated when we look to previous centuries. Let's play this role playing game to take a quick look. What say?

Rules:
- Draw a card and you'll be the character that's mentioned on the card. Don't unfold it until we say it's time. You also get a bag of coins; this is your character's fortune.
- Let's start with you. Unfold your cards by one layer—read the "Fortune" section. What does it say?

Wives: You're probably pretty set. Your husband either has a ton of money (congratulations! You married a gentleman!) or has some and is in charge of supporting your family. But, from now on you are legally just so-and-so's wife. This means that I'll be taking your coins—their husband's now! If he's nice, he'll probably give you an allowance to buy yourself some candy and clothes etc.

Widows: You lost the right to your own bank account with the death of your husband. However, your husband was thoughtful, he set up what's called a jointure. So after he died, you still get your money back. BENJAMINS!

OR

You lost the right to your own bank account with the death of your husband and was too selfish and did not set up a jointures. Well, hopefully you have a generous brother or parents? If not… good luck! You have to figure out where to live and how to survive.

Spinsters: Some of you fare pretty well—you have rich parents, you can just stay with them until they die. Then, if they leave you plenty of money, you're set! You can do whatever you want! Oh, but… it looks like some of you aren't so lucky. Some spinsters' parents aren't so rich, so they make you earn your keep. You have to be a family member's housekeeper, governess, or servant… that does not sound awesome.

Let's find out. Unfold the last section now, the one called “Social Status.” What does it say? Spinsters, it looks like there's a lot of variation. Some of you are pretty destitute… I hate to break it to you, but if your father didn't leave you any money and you don't have any brothers to take care of you, you don't have many options. You could become a governess? I hope you like kids! Some of you, though, it looks like you get ensnared by some nefarious types and you become a lady of the night. No bueno. They did not have great reproductive health care back then. Fortunately, some of you have that fat inheritance—you guys get to do pretty much whatever. You can write novels, do charity work, or just lounge around your estate. The downside is that you don't get much respect. People find out you're unmarried and they make assumptions—they talk behind your back and say that you're nasty and mean. They say you're bitter because no man wanted you. Not cool.

Widows, you're in a pretty good situation! You can remarry if you want to. If you have a nice jointure, lots of guys might be flocking to you. Be careful, though—they might just be after your money (especially if you're older). If you don't want to remarry, you can just do you. If you don't have money, though, you're going to have to hustle… either find a job or find a new husband, pronto!

Wives with rich husbands, I hope you're having fun! You spend your time embroidering, painting, playing piano, and ordering around your servants. I hope you're satisfied with that! Some of you are less well-to-do, though—you guys might not have a governess or cook, so you have to keep the house running. You raise your kids, cook all of the meals, clean the house, make and mend everyone's clothes, and maybe even tend a garden and some livestock. Sounds busy!

8) Review:
What do you think about what happened to your character? Was it surprising? If you could choose, who would you want to be? How many people do you think actually got to be the rich wives? Do you think you'd be happy doing that? Why is it that these conditions only applied to women? How does this compare to what you know about today?