# **MATERIAL SCIENCE 415 – SESSION 1**

| Date/Time/Location | October 9, 2018, 1pm |
| --- | --- |
| Prompt from Instructor | After the introductory workshop to 3D printing, students will be assigned to print something. **Caveats:** Students must modify a found design if they don't do something from scratch **AND** it should be a "successful" print, which means that they may have to do iterations and save any "failed" attempts. |
| Enduring Questions | What is information? |
|  | What’s your role in creating information? |
| Learning Outcomes | Students will be able to:   1. Understand that they are contributors to scholarship rather than only consumers of it *(Scholarship as Conversation)* 2. Understand that first attempts do not always produce adequate results *(Searching as Strategic Exploration)* 3. Seek appropriate help (including from peers) when needed *(Research as Inquiry)* |
| Facilitators | Amy Vecchione |
| In Advance Needs | Have student makers set up and prep:   * Prep computers and have sample prints ready for showing |

## Schedule

| **Time** | **Activity** | **Narrative/Main Points** | **Learning Objective** |
| --- | --- | --- | --- |
| 1pm-1:05pm | Introductions & Agenda |  | N/A |
| 1:06-1:10pm | Set Up | Log into Lab Agenda and verify who has access - who has created accounts, etc.  --Check your email from an invitation from Lab Agenda  --Open the email  --Accept the invitation  --Create the account |  |
| 1:11-1:25pm | Demonstration | As a group show class Thingiverse and Tinkercad  Provide students handouts on both |  |
| 1:25-1:40pm | Divide the class into three groups | Each group will go with one student maker: 1, 2, 3  --Have each group take turns using Cura on a computer.  --Have one student in the group start.  --Teach them to load an item, adjust settings, then hit Print.  --Then cancel the print and delete the item from the bed.  --Then have the next person get trained by both you and the first person.  --Follow that procedure until EACH PERSON has touched Cura.  --SD Card  --Change filament | 3 |
| 1:41-1:45pm | Assessment | 1-minute paper – Respond to “what role do mistakes play in this class? In your education?” | 2 |
| 1:46-2pm | Wrap Up | Go over class assignment  Write down ideas of what you might want to print. Will you start from scratch?  If you plan to modify a file, what changes do you plan on making? | 1 |

# **MATERIAL SCIENCE 415 – SESSION 2**

| Date/Time/Location | October 30, 2018, 1pm |
| --- | --- |
| Prompt from Instructor | After the introductory workshop to 3D printing, students will be assigned to print something. **Caveats:** Students must modify a found design if they don't do something from scratch **AND** it should be a "successful" print, which means that they may have to do iterations and save any "failed" attempts. |
| Enduring Questions | What is information? |
|  | What’s your role in creating information? |
| Learning Outcomes | Students will be able to:   1. Understand that they are contributors to scholarship rather than only consumers of it *(Scholarship as Conversation)* 2. Understand that first attempts do not always produce adequate results *(Searching as Strategic Exploration)* 3. Seek appropriate help (including from peers) when needed *(Research as Inquiry)* |
| Facilitators | Amy Vecchione |
| In Advance Needs | Have student makers set up and prep:   * Prep computers * Have failed prints available for investigation |

## Schedule

| **Time** | **Activity** | **Narrative/Main Points** | **Learning Objective** |
| --- | --- | --- | --- |
| 1pm-1:05pm | Agenda for 2nd session | Tidying Up Lingering Problems  Small Group Discussions | N/A |
| 1:06-1:36pm | Tidying Up Lingering Problems | Have students pair up – One student with a good print, one student who is experiencing lingering problems with their print. Have them troubleshoot together.  Have student makers check in and help where needed.  Circle around and check in with each group. | 3 |
| 1:37-1:42pm | Small Group Discussion 1 | What did you learn from the process? What role did mistakes play?  Have a representative from each group report out to the entire class | 2 |
| 1:43-1:48pm | Small Group Discussion 2 | What role does failure/mistakes play in learning?  Have a representative from each group report out to the entire class | 3 |
| 1:49-1:54pm | Small Group Discussion 3 | How might that compare to industrial practice and the materials used?  Have a representative from each group report out to the entire class |  |
| 1:55-2pm | Wrap Up | Answer any lingering questions |  |