

Meeting minutes  
ATI Mobile In-Vitro Neurovascular Cast System  
C3  
Documentarian - Matthew Sussman

**9/8/17**

4:30 - Worked on project team charter  
6:00 - Meeting End

**9/15/17**

5:00 - Talked about materials and design concepts.  
5:15 - Discussed information learned from Dr. Becker  
5:35 - Decided on materials to look into  
NinjaFlex 3D printable filament  
6:00 - End

**9/19/17**

6:00 - First staff meeting  
Discussed assigned roles  
6:20 - Assigned fields to look into  
Matt is looking into biology  
Justin is looking into materials  
Naser is looking into manufacturing methods  
Jase is looking into aneurysm location and geometry  
6:30 - End

**9/26/17**

6:30 - Staff meeting  
Updated advisors on progress for each project  
6:40 - Discussed future projects and roles  
7:00 - End

**10/6/17**

4:00 - Worked on Preliminary Report

10:00 - End

### **10/10/17**

6:30 – Analysis, create a problem and solve

6:35 – New 3d print option

6:40 – paint-on material

6:45 - assigning calculations

I'm estimating the volume of our circle of willis and tubing

Justin is looking at the viscosity of the plastic pellets

Naser is estimating pressure drop in the flow

Jase is looking at stresses in the Y sections and finding a radius

7:00 - End

### **10/17/17**

6:30 - non-Newtonian fluid estimations

Nasers analytical analysis

Different types of blood pressure, different factors

More research into non-Newtonian equations

6:40 - Justin looking at viscosity of melted plastic

6:45 - Matt CAD modeling

6:50 - Jase finding factor of safety

6:53 - get double stick tape for 3d printing

7:00 - End

### **10/20**

4:30 - group pictures

4:45 - individual project discussion

4:55 - individual work

5:30 - end

### **10/24**

6:30 - Discussing individual analyses

6:35 - Jase's Project, 100 kPa stresses

6:40 - Naser found pressure drops

- Significant difference from Newtonian
- Small pressure drop

6:45 - Matt's CAD drawing

6:47 - Justin looked at viscosity of plastics

- Analyzed dip coat thickness

6:50 - Action Items

- Justin will test new materials and determine melting methods
- Matt will look at flow adapter and mounting system
- Naser will test findings from analytical report (flow of synthetic blood)
- Jase will find factor of safety and determine minimal thickness and help Naser

6:55 - website discussion

7:00 - End

### **10/27/17 - Lab meeting**

1:40 - 2 people need to be trained on rheometer

1:43 - Naser is getting data from Bill on previous projects pressure drops. Cant test data due to lack of access to animal care facility

1:45 - Team is analyzing materials samples from Justin

1:50 - Action Items

- Jase and Naser are getting trained on rheometer Wednesday the 1st at 4
- Matt is continuing on CAD drawing
- Justin is going to take over on getting the factor of safety

2:00 - End

### **10/27/17 - Justins House**

5:00 - Working on the final presentation

- Justin - in charge of topic 1
- Matt - in charge of topic 2
- Naser - in charge of topic 3
- Jase - in charge of topic 4

### **11/3/17 - Library**

5:00 - Working on final presentation

6:00 - Working on final report

- Requirements: Naser
- Testing: Jace
- Design description: Matt
- Proposal design: Justin
- Design Selected: Justin/Matt
- BOM: Naser
- Budget: Jace

### **11/10/17**

11:30 - working on final report

1:30 - end

### **11/14/17**

6:10 - Planning on using rheometer

6:15 - plans for 3d printing prototype

### **11/28/17**

6:10 - contact emails: wcm25@nau.edu

6:12 - getting materials tested

6:15 - possibility of using more connectors

6:19 - material testing alternate methods

6:22 - write testing procedures in final report for each engineering requirement

### **12/8/17 - Matts house**

5:00 - prototype summary and CAD package

7:00 - end

### **12/13/17 - last staff meeting of the semester**

11:30 - 3d prints for casting

11:40 - 3d printing options

11:45 - using rigid adapters at all intersections

11:48 - Friction testing