MTGN348 Microstructural Development
Course Redesign

BACKGROUND

- Spring Junior required course
- Builds on concepts from five previous MME courses
- Leads into MTGN445 Mechanical Behavior of Materials, and several MME electives.
- Overall excellent evaluations

REDESIGNED COURSE

- Redefined outcomes
- Assessments aligned to outcomes
- Productivity software
  - Google sheets
  - Lab videos
  - i>clicker
  - Expanded Canvas use
- Flipped content
  - Camtasia videos
- Active learning
  - Think pair share
  - Concept maps
  - Small groups
- Redesign of report writing
  - Multiple submission
  - Peer evaluation
  - Group grading of old work
  - Rubrics provided

INTENDED OUTCOMES

- Better understand of concepts
- Less misconceptions
- Improved report writing
- Improved lab techniques
- Less anxiety about deliverables
- More time for active learning activities

ASSESSMENT

- 6 lab reports
- 10 homework assignments
- 8 quizzes
- 2 exams
- TA feedback
- Follow-up with future courses

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