

LBMS Engineering Syllabus

Instructor: Mr. Kurt Thonnings

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Big Picture

- Think. Imagine. Create. Dream. Build. Transform. Observe. Evaluate. Apply. Improve. Solve. Adapt.
- Imagine/design a better world
- Problem Solving / Design Process / STEM

The Numbers...

Class Length: 12 weeks

Frequency:

- Music students: 2 days a week
- Non-music students: 5 days a week
- 40 minute periods

Who: All 7th grade students take this class except those students taking 2 or more music classes

Required class items



- Permission slip (see the end of this document)
- Composition book
- Pencil
- Cheap earbuds
- Shoe box (minimum 12 inches in length)

Class Rules

Rules are very important in this classroom. They help everyone know what to do and help keep everyone safe.

- School-wide rules – *the Burneson Way* – is meant to identify general behavior that when followed by all, would best promote learning and growth. (Listen and Learn, Be Respectful, Make Responsible Decisions, Strive for Excellence)
- The classroom rules are specific to the environment of that class and teacher, again, to promote the best environment for learning and growth.

BE PROACTIVE
BEGIN WITH THE END IN MIND
PUT FIRST THINGS FIRST
I WIN-WIN
SEEK FIRST TO UNDERSTAND
THEN TO BE UNDERSTOOD
SYNERGIZE
SHARPEN THE SAW

Consequences

Purpose/goal of consequences:



Stop to Reflect

Print your name:
Date:
Period:

Note: If your writing is unreadable, contains little content, or does not reflect your responsibility of the actions you chose to display, you will be asked to immediately complete another form.

Some kind of action of yours interrupted the class. Please describe what YOU did or said.

Do you believe that your disruption was helpful to the class in any way? (Circle one) YES NO
If you circled Yes, please explain.

Was there someone or something that 'made' you do this behavior that the teacher should know about? Explain.

- Personally 'owning' the mistake,
- Fixing" the mistake,
- Learning from the mistake, and
- Evolving to be a better student.

Actions:

- Stop and Reflect (written by student and kept on file in classroom)(This is NOT a detention)
- Call home to parents
- Detention
- At times, a student might be asked to temporarily go into the hall should that be necessary to allow the rest of the class to work on required activities.

Class Procedures

- **Being Tardy to class:** Students are required to be on time to class. When you know you will be late, please ask the previous teacher to write you a pass.
- **Bathroom breaks,** going to your locker, etc.: It would be appreciated if students could please use the restroom before coming to class; however, permission will be granted but only after daily instructions have been given. Students will be given a signed and dated pass. The pass is to be returned to the teacher upon arrival back the class.
- **Questions:** Ask lots of questions, but please raise your hand.
- **Clean-up:** All students will be required to help in some fashion to clean-up after activities
- **Seating Arrangements:** Many of the activities in this class are small group activities. Seating arrangements might be assigned or change from activity to activity. Students might be moved at any time for any reason.
- **Cell phones:** Cellular phones of any type are not allowed in any classroom at any time. (See more on school policy [here](#))

Grades

The student is responsible for keeping up with assignments and checking Engineering grade periodically on PowerSchool. Please feel free to ask any questions. Sometimes it's best to wait until the end of class or before school.

Grading Overview/Absence Procedures

Most activities in these classes follow rubrics and can be found on the pages within the <https://thonnings.blog> website.

- If a student is not able to complete the assignment by the due day because of absence or other need, it is the student's responsibility to approach the teacher about make-up.
- A zero will be recorded in the grade book until the work is turned in. 80% credit will be given to those who take the effort to complete the work -outside of class time – and turn it in. Credit will be given until the very last day of the term.
- If a student is absent, they will be given the appropriate amount of time to complete the assignment. Note that a 'zero' will be put into the grade book until the assignment has been turned in. Please refer to the LBMS' Student Handbook for school-wide grading and attendance policy.
- Please note that if missed class while 'group' projects were being worked on, you may be assigned some out-of-class work as makeup. This is a 'hands-on' class and many activities are impossible to make up from an absence the same way the activity is experienced in class.

Late work or Makeup Turn-in Procedures

- To turn in work to be re-graded, students should fill out their name, period, and what they'd like to be graded on a post-it note (found on my desk) and put it on my computer keyboard. (I'm sure not to pass that up, yes?)
- Please do NOT turn in to Google Classroom WITHOUT notifying the teacher.

Homework

There will be some homework given during the term. Each assignment will be 10 to 15 points. The lowest grade will be dropped.

Activities

Students will receive grades for completed activities based upon the following criteria:

- **20%: Completion of assignment on time**
(individually graded)
- **30%: Individual Effort towards completion of goal**
(individually graded)
 - Observable participation (using tools, measuring, focused discussion, observing, etc.)
 - Full use of available class time
 - Teamwork skills / Improvement
 - Cleanup duties
 - Extra time outside of class?
- **30%: Preciseness / Workmanship / Content**
(individually graded)
 - Quality of completed work
 - Knowledge gained as assessed by quiz, verbal questioning, presentation, or other
 - Followed directions via lecture, written, and/or online directions?
- **20%: Self-Evaluation**
 - Honest, in-depth, fully completed end of unit self-evaluation

Topics per class

See <https://thonnings.blog> for more detailed information on individual activities

7th grade 2 days/week

- Basic sketching
- Design process and creativity techniques
- Intro to solar power
- Junior Solar Sprint project

7th grade-5 days/week

- Basic sketching
- 3D software
- 3D Printing
- Design process and creativity techniques
- Intro to solar power
- Junior Solar Sprint project
- Basic electronics
- Engineering Brightness project

8th grade -2 days/week

- KidWind Challenge
- Group project
 - *Future Town*
 - *TED Talk*

8th grade -5 days/week

- Architecture unit
 - *Sketch*
 - *Draft*
 - *Build scale model*
- Review of 3D modeling / printing
- KidWind Challenge
- Robotics
- Powering with the sun
- Group project
 - *Future Town*
 - *TED Talk*