
CSi
Design your future.
Utica Center for Science and Industry
Engineering
Mechatronics
Multimedia

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9th Grade English

Lead Teacher

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"Our goal is to foster an engaging, challenging and creative environment where each student feels competent, confident, and motivated to learn."

The Decision…

Traditional Comprehensive High School	Utica Center for Science and Industry	Utica Center for Math, Science, and Technology	Utica Academy of International Studies

Find the right fit for YOU!

What is CSI?

Half day program, grades 9-12

High-tech career/elective pathways:

- Mechatronics
- Engineering Technology
- Multimedia Production

Each year, students take English, math, and elective

(Note: no science credit at CSI)

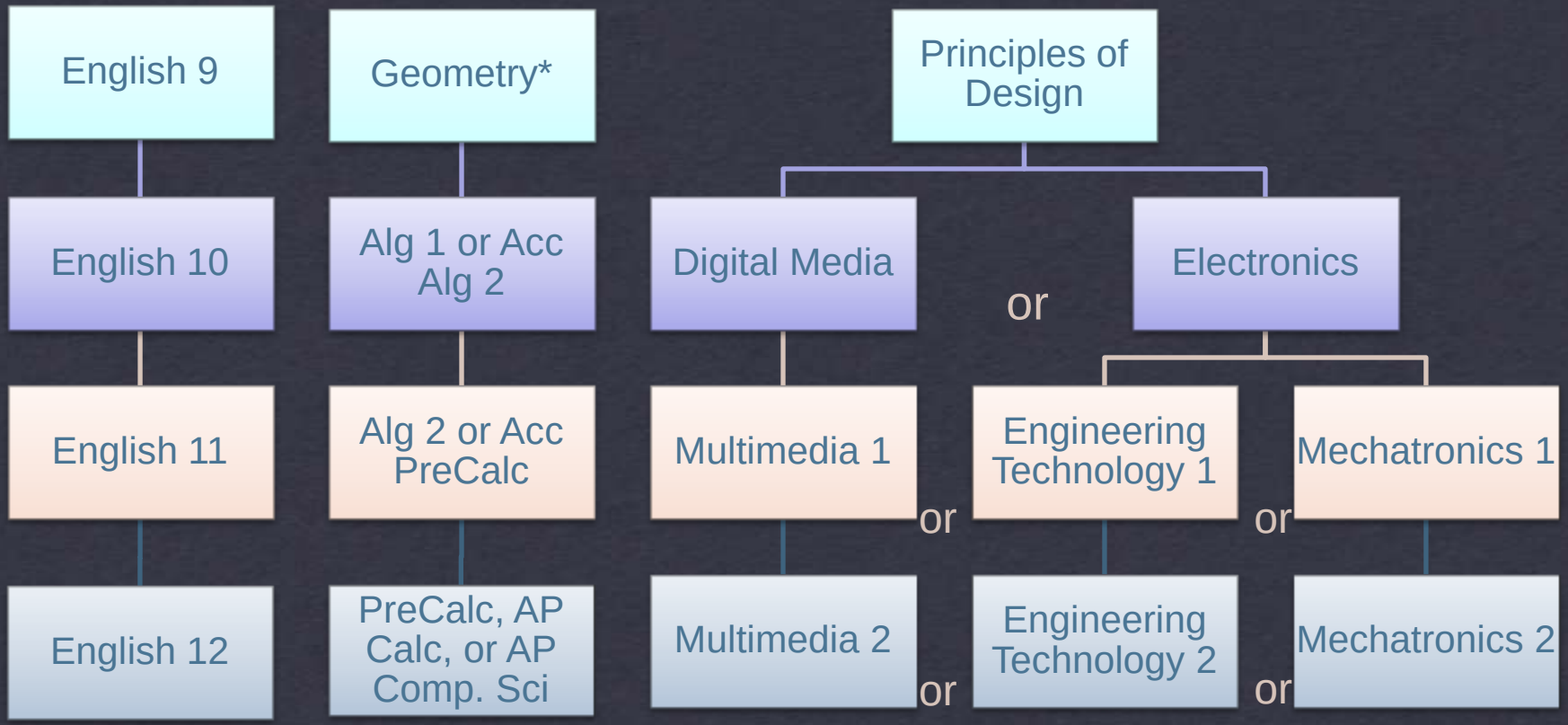
The Ninth Grade Schedule

CSI Ninth Grade Classes (a.m.)	Home School Classes
CSI English 9	Social Studies
CSI Geometry*	Science
CSI Design Principles: Elective in creative and technical design**	Elective

*Or AP Computer Science if credit already earned in Geometry

**No previous art experience (or “talent”) required.

Four Years of CSI



**Already had Geometry? You'll take AP Computer Science*

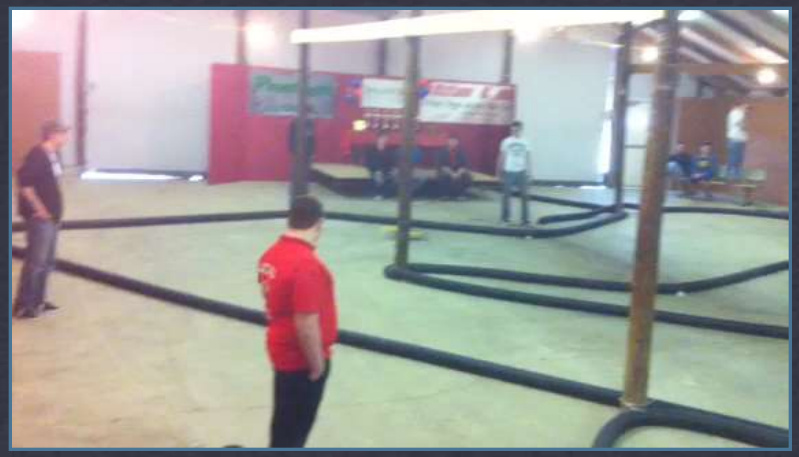
Work-based learning experiences throughout

Portfolio/resume development in 11th/12th

High Tech Career Pathways

CSI Engineering Technology

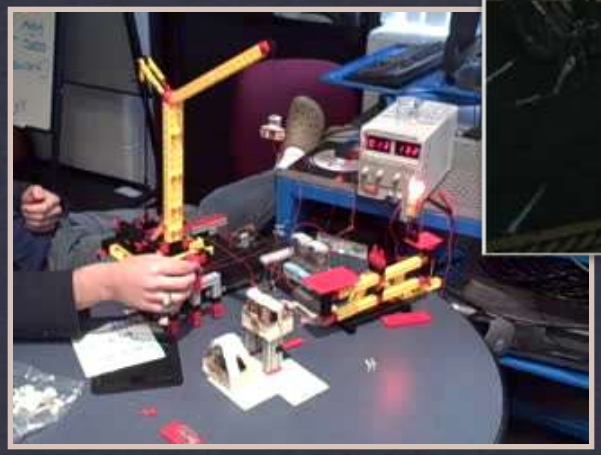
- Principles of Design
- Electronics
- Engineering Tech I, II

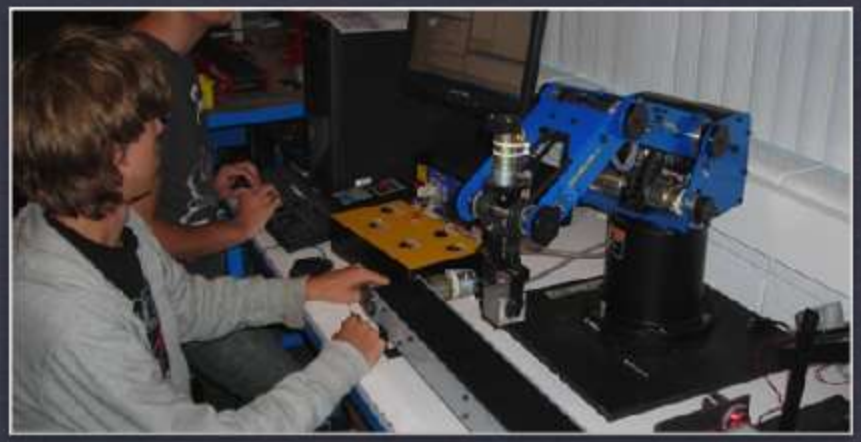


High Tech Career Pathways

CSI Mechatronics

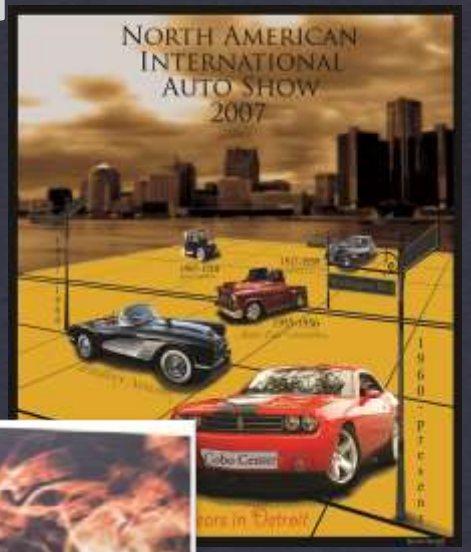
- Principles of Design
- Electronics
- Mechatronics I, II
  - Automated Systems
  - Robotics
  - 3D Printing
  - Circuitry
  - PLC Programming





High Tech Career Pathways
CSI Multimedia Production

- Principles of Design
- Digital Media
- Multimedia I, II



Earn College Credit

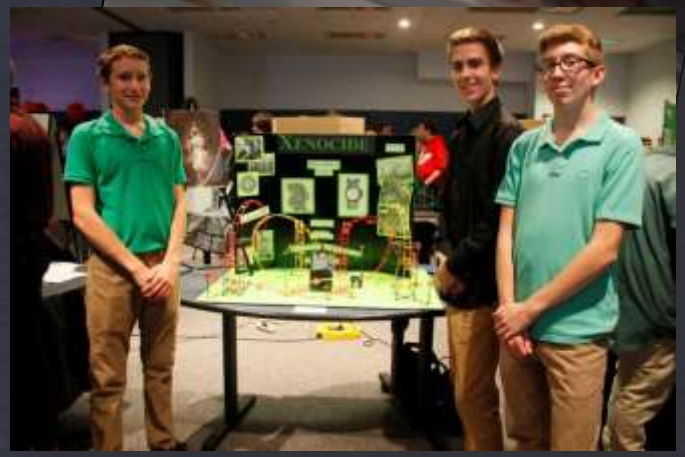
- Articulation agreements with Macomb Community College in all three pathways
- Advanced Placement Computer Science
- Advanced Placement Calculus A/B
- MAT2 Program

NOTE: Students enrolled in UCSI (and MST and UAIS) are **ineligible** for Early College Macomb (ECM) or other early college programs.

If you are interested in one of our elective pathways, consider the following questions…

Do you learn better when **building** or **creating** in a hands-on way?

Do you enjoy working as part of a team?



…and are you willing to explore different solutions to problems?

Do you enjoy using technology to enhance your learning?

Are you more motivated when your learning is connected to the “real world”?

Dr. Ed Catmull
Co-Founder of Pixar and
President of Disney Animation

Smart Vehicle Technologies
21st World Congress

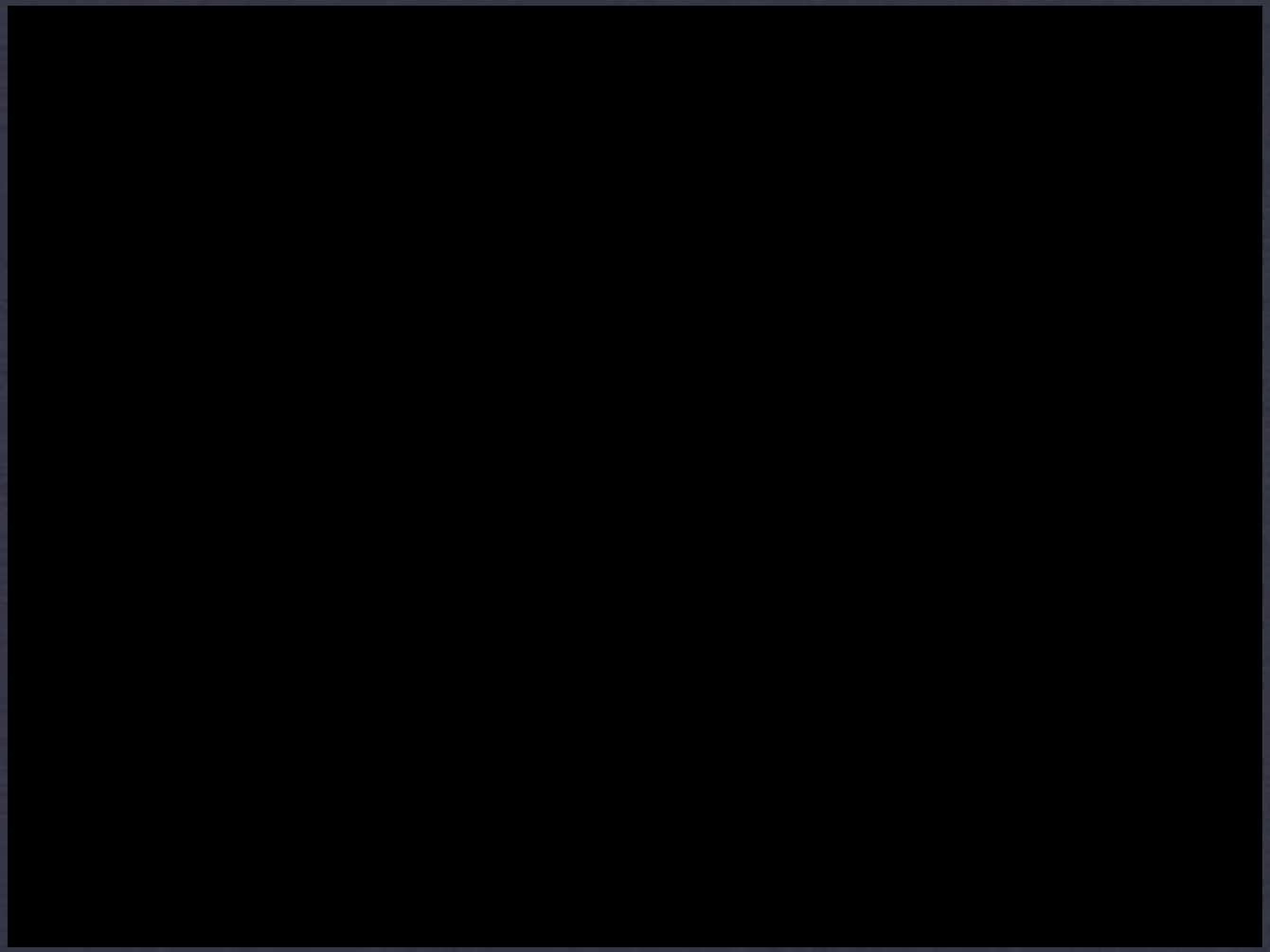
TEDx Detroit

Tank Automotive Research
velopment Engineering Center

Women in S.T.E.M.
General Dynamics Land Systems

If you answered “yes” then CSI might be the place for you!

How is CSI Unique? The students' perspective

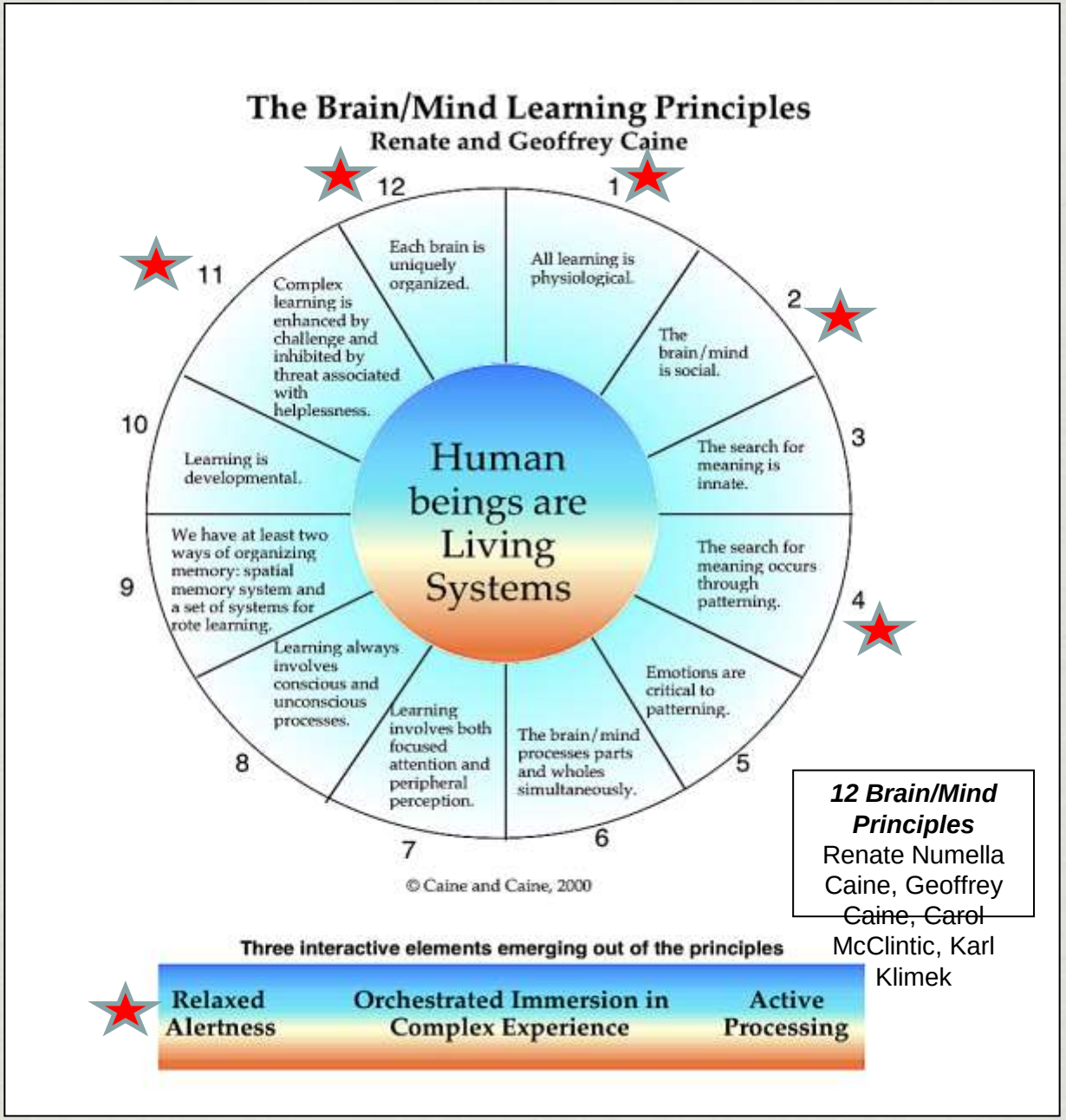


CSI Culture

Brain-based learning

Environment, and instructional practices are based on how the brain learns best.

12 Natural Learning Principles (LP 1-12)



12 Brain/Mind Principles
Renate Numella Caine, Geoffrey ~~Caine, Carol~~ McClintic, Karl Klimek

Brain-based Learning

Learning is physiological (LP1)

- Both the body and brain are a part of learning
- Learners should be physically engaged and comfortable

At CSI…

✓ Kids are free move about the classroom and building at appropriate times.

✓ Technology & multi-sensory experiences are infused into daily lessons and projects.

Brain-based Learning

The Brain/Mind is Social (LP2)

- During learning, the brain/mind wants to question, share, communicate
- Students learn best when they feel a sense of community

At CSI…

✓ Students sit in collaborative tables, not in rows.

✓ Students often work through problems and projects in teams.

Brain-based Learning

Learning occurs through patterning and emotions are critical to the process (LP4 & 5)

- People are driven to identify, name, and organize elements—to find patterns
- Positive emotional state = deeper learning

At CSI…

- ✓ Students often work to discover new patterns rather than receive information through lecture.
- ✓ Classroom environments are positive, friendly, fun

"Figure it out"=unofficial CSI motto

Brain-based Learning

Complex learning is enhanced by challenge and inhibited by threat (LP11)

- The threatened, fearful brain is not capable of deep levels of learning.

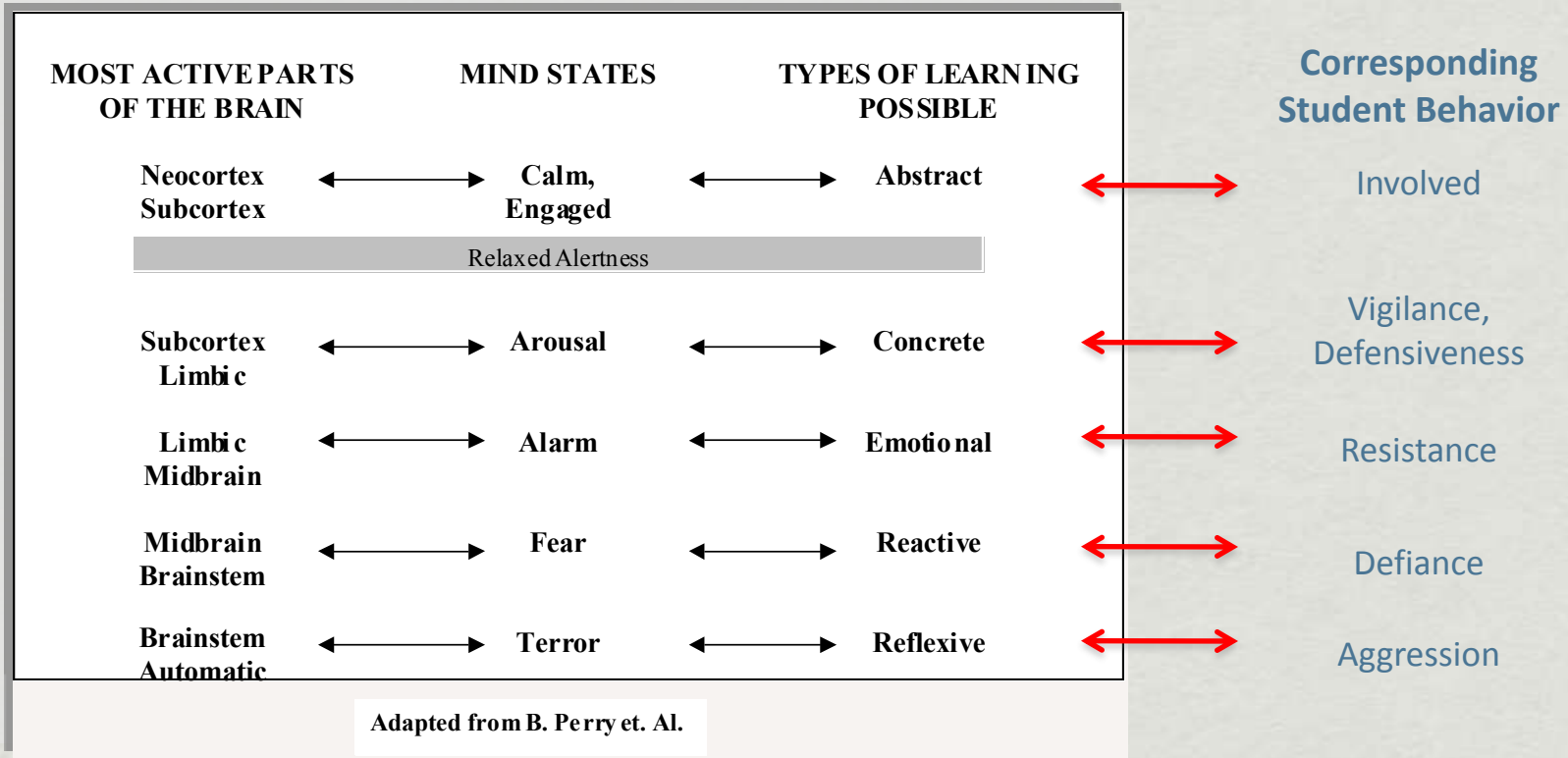
At CSI…

✓Expectations are high for all assignments, all learners: challenge for all

✓Flexible deadlines are possible

✓Revision and resubmission of assignments is encouraged as needed

Brain-based Learning
"Relaxed Alertness"



LP 11-Learning is **enhanced by challenge** and **inhibited by threat associated with helplessness or fatigue**.

CSI Culture

Cross-Curricular Projects

Real World Relevance through Cross-Curricular Projects: The Kite Project

9th grade students collaborate to research and create a kite.

English	Geometry	Design Principles
*Short story unit: *Kite Runner* excerpts *Research: kite construction, flight *Research & Development Board *Presentation to seniors who give immediate feedback	Demonstration of math concepts such as: *Pythagorean Theorem *Surface area *Symmetry *Indirectly calculate the height of their kite in flight	*Creative process: documentation of brainstorming, sketches, final drawings and CAD renderings *Originality of CSI Logo *Craftsmanship *Elements of art *Analyze flight problems, research, reengineer

Real World Relevance through Cross-Curricular Projects: The DPS Project

9th grade students collaborate to research and create an original beverage product, container, and marketing plan.

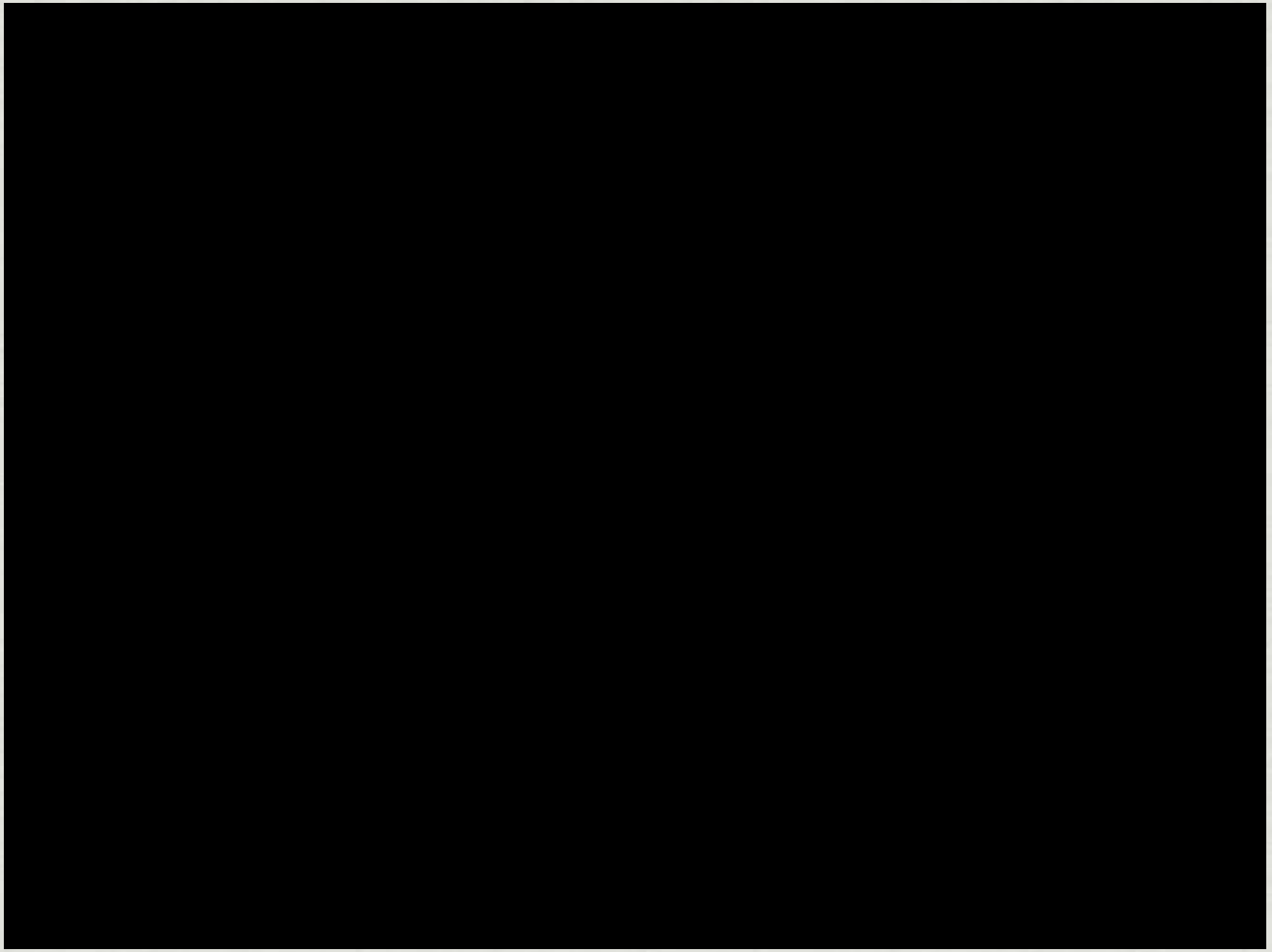
English	Geometry/Math	Design Principles
*Group research report on HOW beverage is a healthier, marketable alternative *Communicate their ideas clearly *Persuasive and effective presentation *Reflection of Corporate Role	*Scale ratios *Surface Area *Volume *Production Costs *Profit margin	*Create an original logo for their company •Create a visual display •Physical prototype CAD 3D Model

Real World Relevance through Cross-Curricular Projects: Roller Coasters

10th & 11th grade students work in groups to design , create and pitch an attraction with a literary theme to "high stakes investors"

English	Algebra	Engineering	Digital Media
*Collaborate to develop literary theme throughout ride and promotional materials *Communicate their ideas clearly *Persuasive, professional presentation and marketing materials	*Construct a graph of ride's height over time and model parts of ride with linear, quadratic, and polynomial functions	*Research, design and model an amusement ride	*Create an effective promotional campaign with clear thematic links *Analyze the elements and principles of art in campaign *Utilize appropriate technology

Real World Relevance through Cross-Curricular Projects: The Trade Show



Results

Achievement Data

- CSI Students achieving above local and state averages
  - ✓ ACT (composite and all sections)
  - ✓ MME (all sections)
- Statistically significant improvement in achievement
- Class of 2014: four valedictorians
- Class of 2013: three valedictorians, one National Merit semi-finalist

Parent Response

A 2012 parent survey showed

- 91% say that CSI “has had an impact on improving my child’s motivation & effort in school”
- 98% agree that CSI “helps my child meet state academic standards”
- 94% state that CSI “encourages my child to attend college”

Where are CSI graduates?

- Michigan Technological University
- College for Creative Studies
- Michigan State University
- University of Michigan
- Kettering University
- Lawrence Technological University
- Saginaw Valley State University
- Wayne State University
- Kendall College of Art and Design
- Full Sail University
- California College of the Arts
- Central Michigan University
- Macomb Community College
- Grand Valley State University
- Western Michigan University
- Oakland University
- University of Detroit Mercy
- Savannah College of Art and Design
- MAT2

98% of CSI Graduates have gone on to post-secondary study

Admissions-Criteria

- Application information
- Scores on math, reading, writing entrance exams
- Grade Point Average (Jan. 2014)

The above information is entered into a rubric. Students whose rubric score is higher than the determined minimum are entered into a lottery.

Admissions-Lottery

All qualified students have equal opportunity to be admitted.

- Qualified students get a randomly selected number.
- Invitations sent to students #1-90.
- Waitlist letters sent to students #91 +
- Decline letters sent to non-qualified students.
- Waitlisted students contacted (in order) upon declines.

Packet Includes

- CSI Profile & FAQ's
  - ✓ Four year plan
  - ✓ Transportation information
- Brain/mind learning information
- Map
- Application information

Discover CSI

Use the map to guide you through CSI

Creativity, Collaboration and Innovation Senior Project 2013