Advanced Applied Technology
Course Description, Syllabus, Class Outline, & Rules

Course:	Advanced Applied Technology
Duration:	Trimester (12 Weeks)
Prerequisite:	Applied Technology
Repeats:	Course may be repeated
Career Pathway Strands:	Indefinite – For college bound learners, course will prepare for Research Projects and Independent Study courses.
Instructor:	Ms. Baumann
Room:	Technology Lab (room #8)
Instructor Planning Time:	2nd Hour (1st Trimester)
Textbooks provided:	none
Add'l material required:	Paper, Folder, Writing utensil, Computer Access

Other supplies: Learners will be using the school computers and equipment. you will not typically be required to provide any material of your own. **However, occasionally you may be asked to bring supplies from home IF your chosen project requires additional/expensive materials.**

Course Description/Purpose of the Course

The course is an opportunity for learners to explore various technology applications in depth, create & develop an application, learn how to effectively do research on topic matter, and formulate quality research papers assessing what has been learned.

The resources of the Technology Lab will be made available for ***independent research*** and study. Learners (a.k.a. students) will select area(s) of study that have technology implications (i.e. digital video editing, advanced programming, robotics, aerodynamics, or digital photography).

- Learners will write a "Research Proposal." The proposal will thoroughly outline and define goals, the timeline, and application of the area of study.
- Learners will study the technology applied and create the project defined in their proposal.
- Learners, at the end of the timeframe, will present the results of their studies. They will also prepare a summary report.

Instructional Vision

The vision of the class is that of an entire class of "independent study" learners. The independent nature of the projects allow each learner to work separately and maintain high interest, but having all of the learners working in the same classroom at the same hour insures that learners are kept on on-task and can get the help they need in a timely manner. Learners are expected to develop high caliber research projects.

Topics

Topics are only limited by the imagination of the learner and the resources of the lab. Examples of projects might include (but are not limited to) the following:

BASIC Stamp/microcontroller programming

Digital video production
- Commercials
- Short films
- Informational productions

Digital video editing

QuickTime VR projects

Flash Animation

Flash programming

HTML programming

JavaScript programming

Advanced web design and site development

Fundamentals of aerodynamics & flight

Digital photography

Rocketry

Engineering and Stress Analysis

Computer Illustration with Adobe Illustrator

Digital photo-editing with Adobe PhotoShop

Fuel cell technology

Basic electricity

Mag lev technologies

BASIC programming with Real BASIC

Simple electric circuits

Digital art with Corel Painter

Distance Learning and Teleconferencing

Advance film editing with Final Cut Pro

Clay Animation

Stop animation (non-clay)

Internet scripts - CGI

Robotics with Legos Mindstorms

Graphic design with Adobe inDesign

Music editing & Soundtracks using Soundtrack and GarageBand

Senior slide show

School information web sites
- Maintaining district sites
- Establishing new sites

"Professional" Web Site Development

Programming Projects
- School-wide voting machines
- Game Access Programs
- Shop budgeting program

Podcasting

Creating Adobe projects using CS3

Advanced IMovie applications

Virtually any other educationally appropriate topic can be considered.

Essential Outcomes

- Educational independence/Self-guided learning
- Proposal writing
- Research planning and development
- Awareness of emerging career fields using technology
- Foster a desire to explore new topics in technology
- Time management
- Public speaking experience

Grading

Learner level of independence and self-motivation will be evaluated each week. Students will be required to journal each week on research and progress. There are as many as 30 separate projects being worked on each class period, so it is imperative for every learner to stay on-task.

When Ms. Baumann is not immediately available, learners will be expected to find ways to **work through** problems and shortfalls without disrupting their classmates. If problems or shortfalls do occur, learners should remain productive and "work the problem."

Project quality and completion will be considered SIGNIFICANTLY in the marking period grading. Project presentation and overall project quality will be evaluated **at a high level**. Individuals/groups will be expected to explain the concepts fully with detail and depth. Audience members should be able learn something from the presentations.

The marking period grades will be determined as follows:

Grading Points for each Marking Period/Rotation

Proposal – Rough Draft of Research	20%
Journal – Effort & Progress	20%
Weekly articles + summary about technology (5…10 total)	10%
Research Paper	30%
Presentation	20%

TOTAL % per Rotation **100%**

FINAL EXAM: Technology Impact Portfolio 20% of grade

All Required Papers MUST:

Learners will be expected to use standard/formal writing format. In order for a paper to be considered acceptable for grade-consideration it MUST:

- Be typed, 12-font (or smaller) Times New Roman or Arial, standard page formatting (1.25" L&R Margins, 1"T&B Margins)
- Include:
    - Name
    - Date
    - Subject
    - Rotation

	Part 1: Together	Part 2: On Your Own
Problem	• I CAN identify a problem	• I CAN identify a problem
Research	• I CAN research about problem & solutions	• I CAN research about problem & solutions
Analyze	• I CAN distinguish between how solutions help the solve the problem	• I CAN distinguish between how solutions help the solve the problem
Evaluate	• I CAN understand solutions to problem and justify a stand or opinion about solutions to the problem • Create a simulation or example	• I CAN understand solutions to problem and justify a stand or opinion about solutions to the problem • Create my own prototype or simulation
Present	• Develop Research Paper • Peer Presentation • Website	• Develop Research Paper • Website • Presentation to class