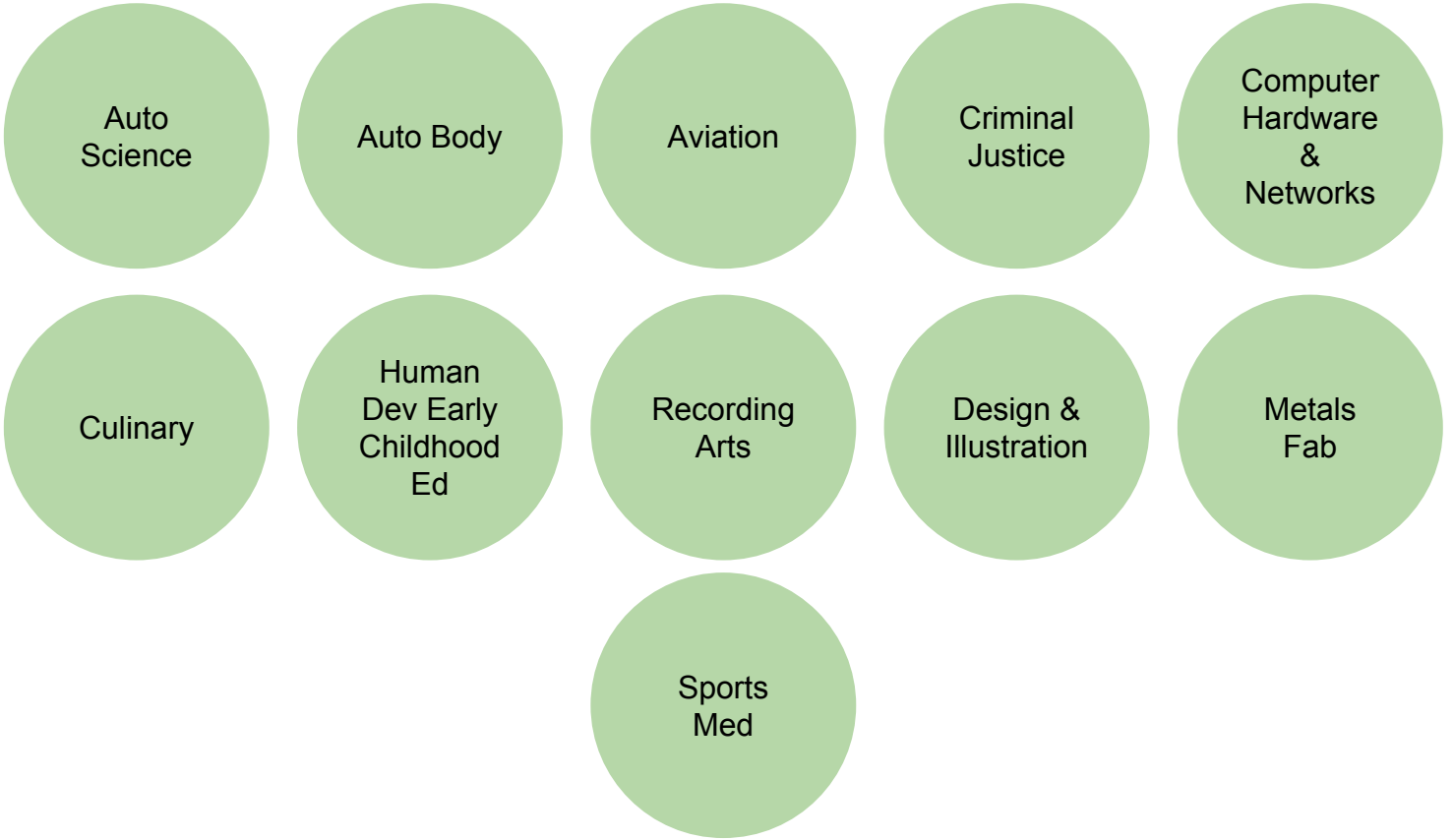
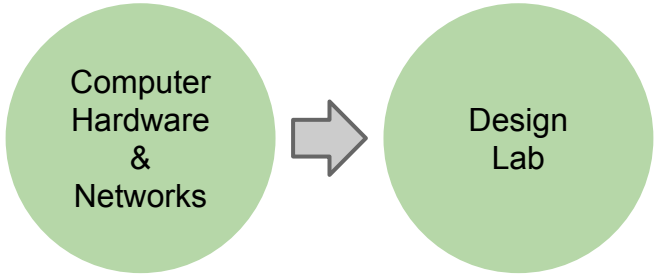
BTC Design Lab (Studio B)

by Angela Pandis, BTC
and Adam Provost, BSD TIS

Each BTC program currently functions independently



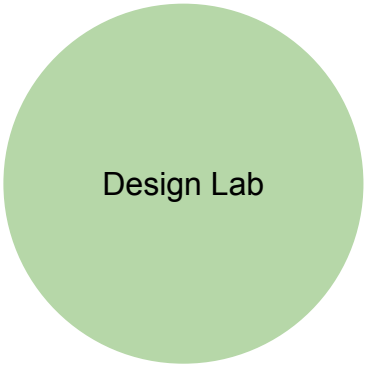
Propose merging current Hardware and Networking program into fully functional Design Lab



Hardware and Networking: Current program

Revamp program into / toward Design School Model
Examples: Stanford D-School, Harvard Innovation (Hi) Lab, MIT Media Lab

Design School, rapid prototyping, Maker Space



Principles of Design
Design Thinking
3D Printing
Modeling
Electronic prototyping
Internet of Things
Web design
Social Media
Project Management
User Testing
Instructional Systems Design (ISD), User Experience Design
Teaching Internships with other BTC programs with Lab functions
ie Programming with Early Childhood Education
Hardware and Networking

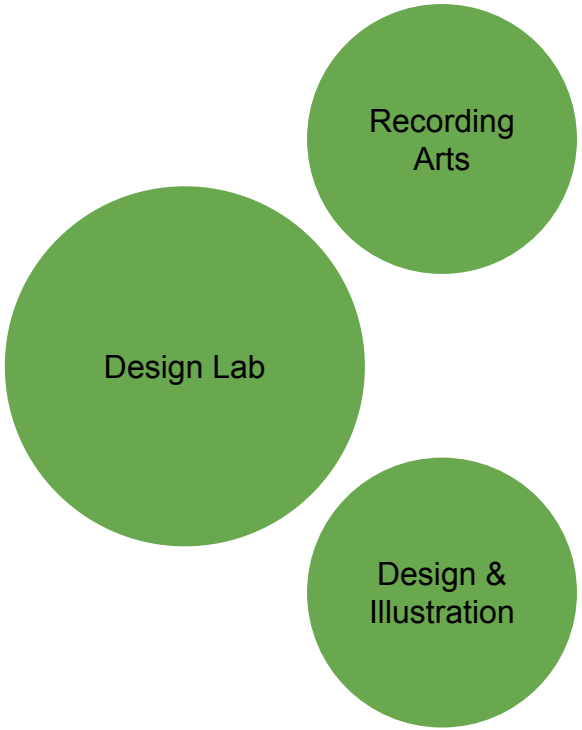
Design Lab
Coordinates BTC initiatives with Media Arts and Design and Illustration for:

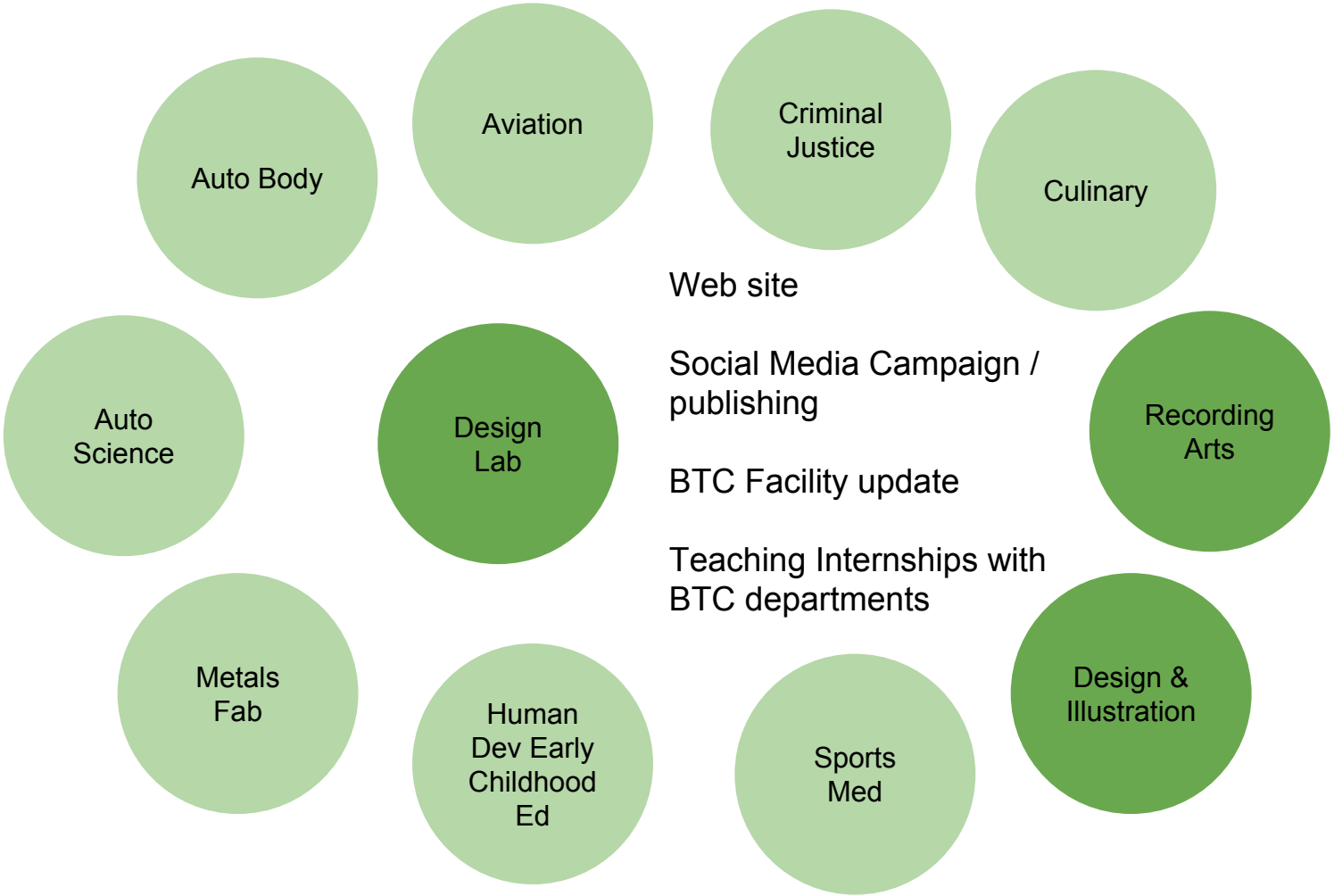
New website (modern Wordpress site). Interactivity with all other BTC Programs

Social Media campaign for all BTC programs / marketing

Facility renovation (hallways and classrooms) for color palate (facelift), art curation.

and Promotes student internships with Champlain College, UVM, Burlington Generator and Burlington businesses (Dealer.com, My Web Grocer, etc.), community, and training programs for other schools (graduate courses).




Auto Body
Aviation
Criminal Justice
Culinary
Web site
Social Media Campaign / publishing
BTC Facility update
Teaching Internships with BTC departments
Auto Science
Design Lab
Recording Arts
Metals Fab
Human Dev Early Childhood Ed
Sports Med
Design & Illustration

Design Lab

Design School
1, 3, 4, 5, 6, 7, 8, 9, 10

Principles of Design /
1, 3, 4, 5, 6, 7, 8, 9, 10

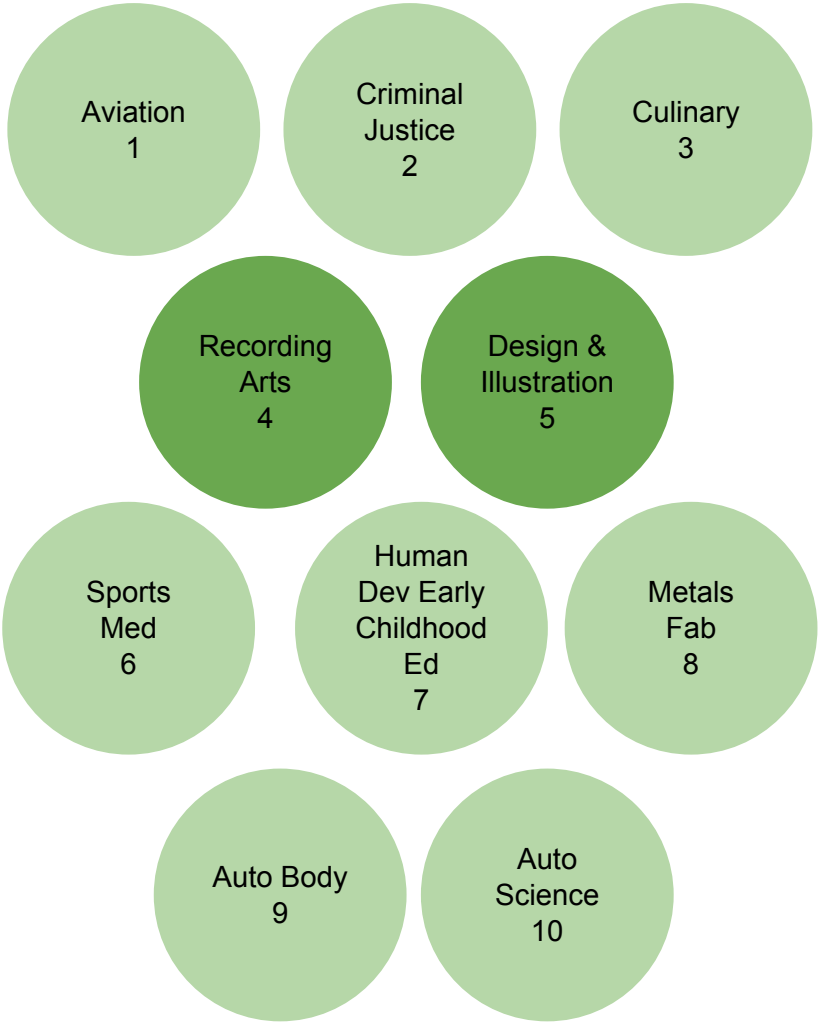
Maker Lab / Rapid Prototyping / Project Design and Management / / ISD User Testing
1, 2, 3, 4, 5, 6, 7, 8, 9, 10

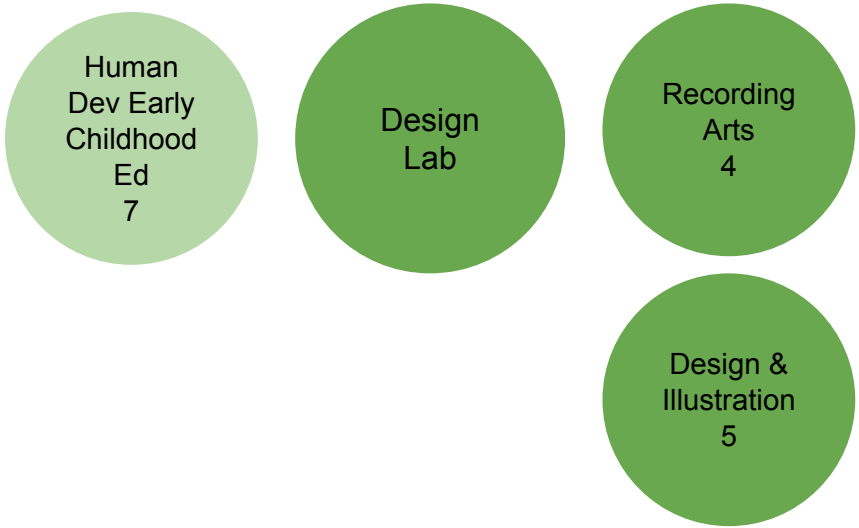
Social Media
1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Web Development
1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Programming
2, 7 (early Ed)

Teaching Principles / Program
3, 4, 5, 7 (possibly others)





Example

Human Development / Early Childhood Education works with the Design Lab on a programming project. All participants gain teaching / mentoring and early childhood development expertise. The project is recorded (video documentation with recording arts, and published with Design Lab media students working with Design and Illustration. The project could extend into Internet of Things (Little Bits robotics) and robotics teams in the Design Lab.

Tie in: College teaching / mentoring programs (early childhood dev, programming, video documentation (Reggio Emilia), publishing and design

Pick a name!

D-School (Stanford)

Media Lab (MIT)

Hi (Harvard Innovation)

Studio B

FUTURE THINKING

Advanced Programming and Robotics School

Incredible need for an advanced and interdisciplinary programming track in Chitt County

Potentially a huge draw for the Tech Center and incredible fit with the Design Lab concept

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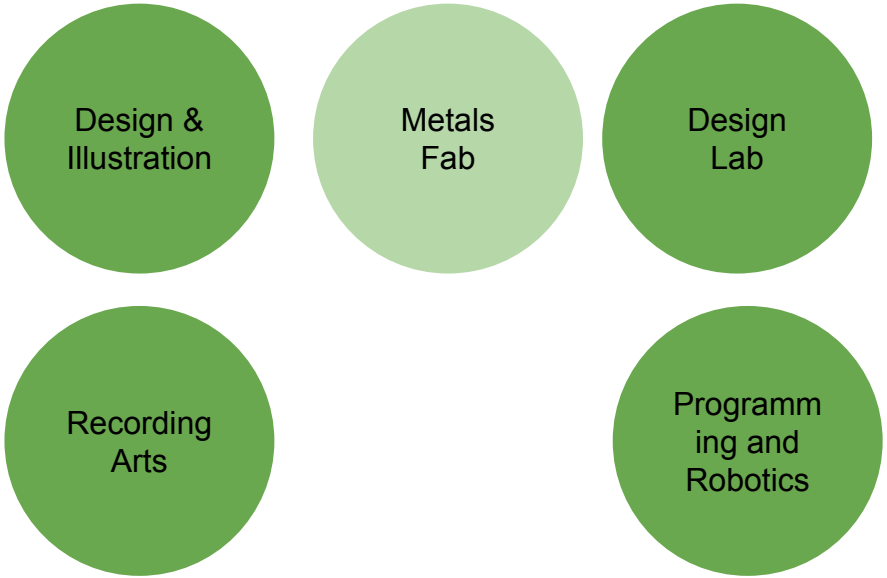
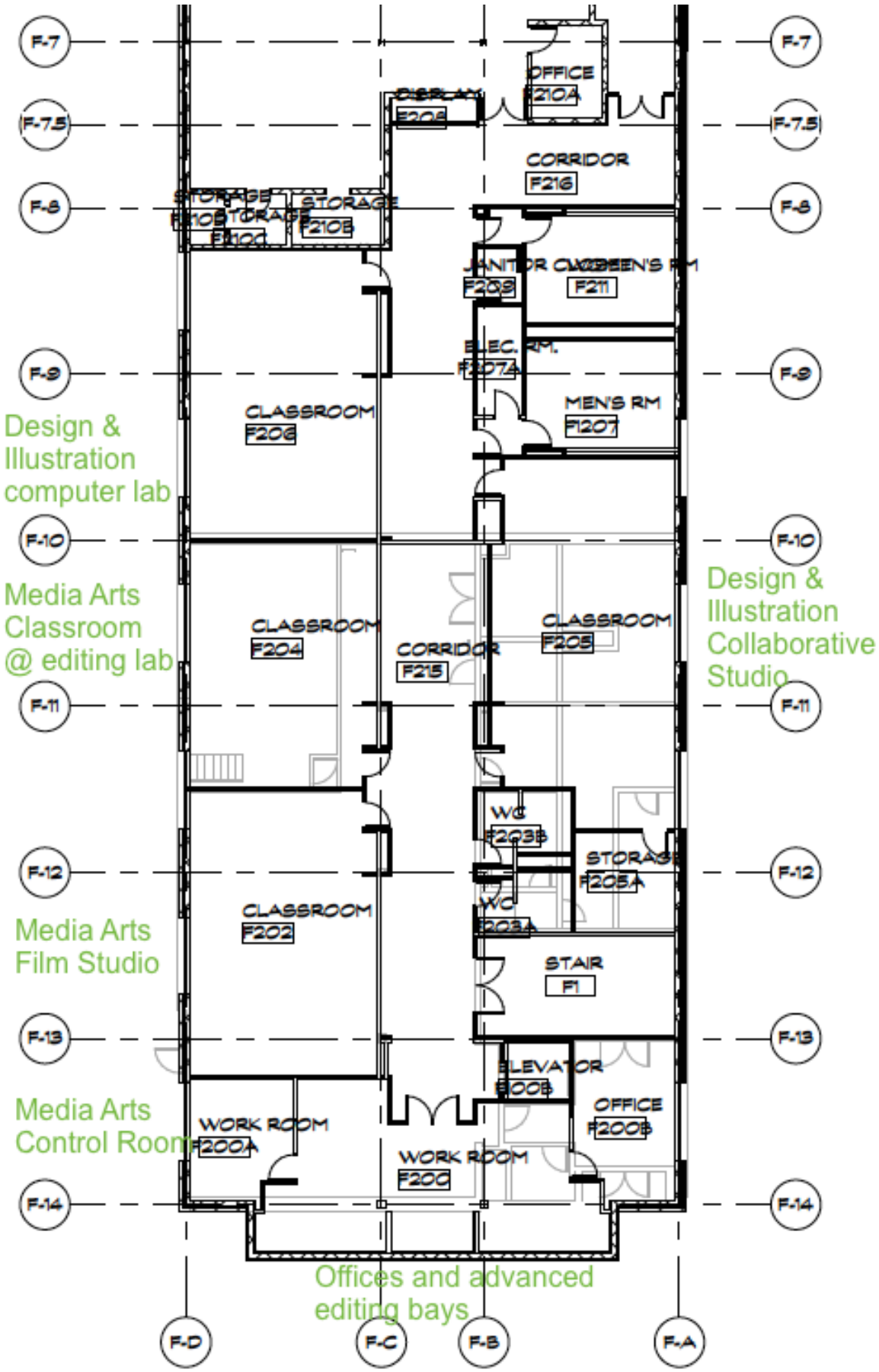
Community Partners: Signed in

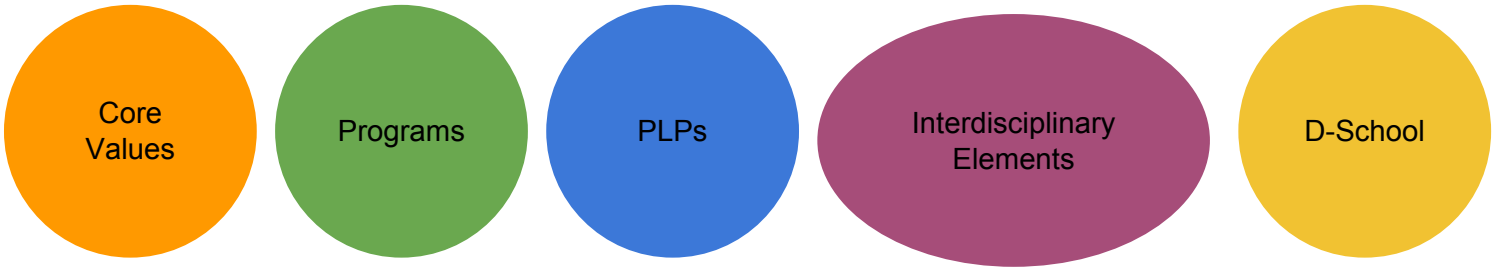
Burlington Generator
Champlain College
University of Vermont

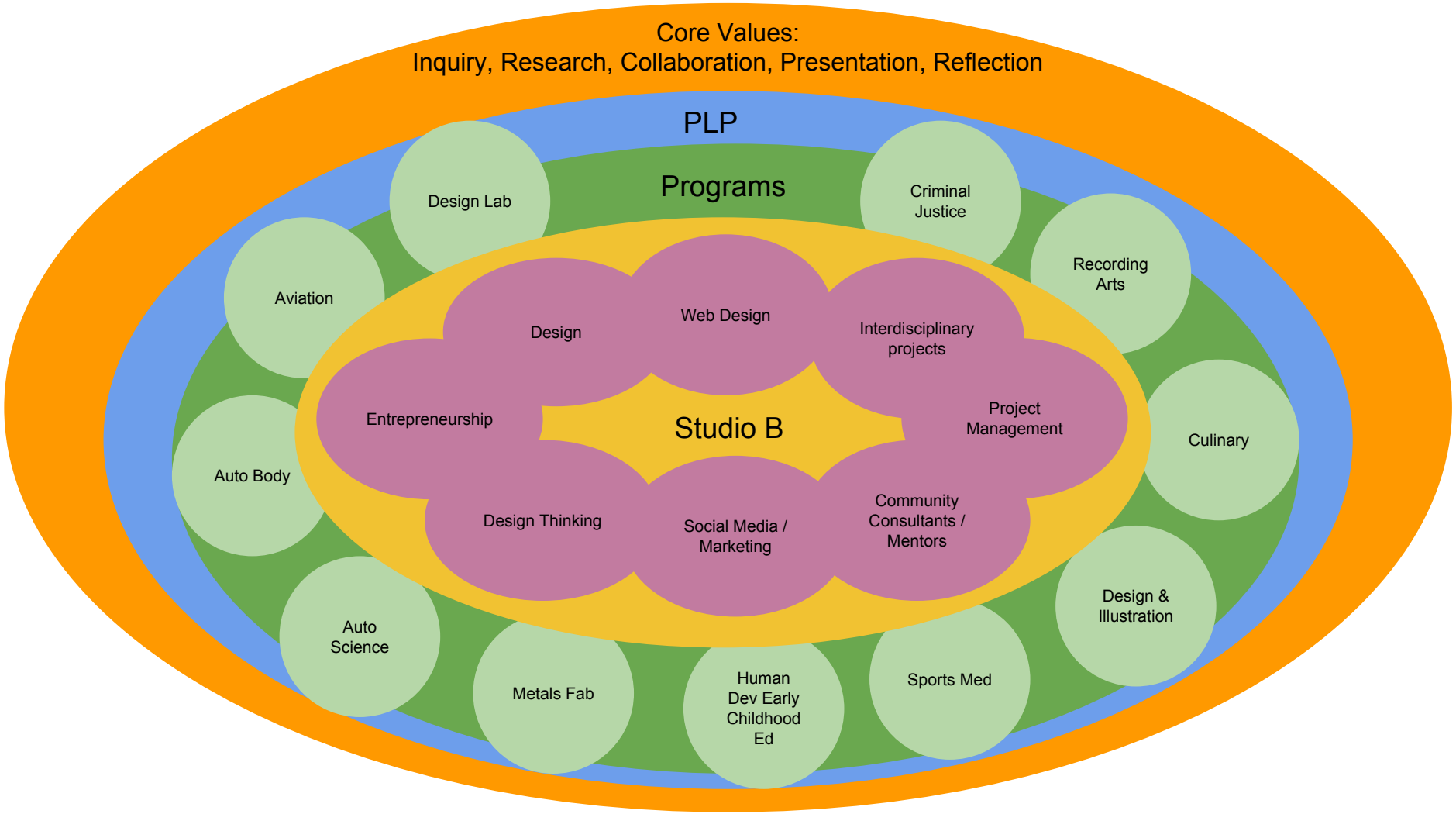
Centralize services: Move programs to the same hallway in F Building





BUILDING F - LEVEL 3


Core Values
Programs
PLPs
Interdisciplinary Elements
D-School


Core Values:
Inquiry, Research, Collaboration, Presentation, Reflection
PLP
Programs
Design Lab
Criminal Justice
Aviation
Recording Arts
Design
Web Design
Interdisciplinary projects
Entrepreneurship
Studio B
Project Management
Culinary
Auto Body
Design Thinking
Social Media / Marketing
Community Consultants / Mentors
Design & Illustration
Auto Science
Metals Fab
Human Dev Early Childhood Ed
Sports Med

Summer 2016
Move Design and Illustration and Media and Recording Arts
Implement stage 1 of shop refinish / build: floor, repairs, door, power
hire a Programming and Robotics Teacher

Yr 1: 2016 - 2017 school year
dev k-12 curriculum and organize teacher PD
team teach Java at BHS
Begin basic maker space design challenges

Develop project board vision and BTC teacher PD

BHS teacher invites to draft workflow ideas

Establish Artist in Residence Program: Generator, Champlain and UVM students

Community
- Host parent nights
- Student design challenges and showcases

Design team
continue MakerSpace development

Yr 2

Full Studio B classes

Core skill development: Personalized Learning Plans, Act 77 (Vermont State Legislature)

Interdisciplinary project board

Programming and Robotics class integration

Full artist in residence program

Full partnership with Burlington Generator, Champlain College and University of Vermont

Studio B

Core Values
inquiry, research, collaboration, presentation, reflection
Design Thinking
Rapid Prototyping

Project board: listing of solo and team projects in motion and ideas / needs, and skills listing

PLP / Capstone

Design Thinking / Rapid Prototyping	**Project Management**	**Leadership**
marshmallow challenge inversion design what is 'good' design designers in action the 'gap' challenge design thinking challenges from d.School at Stanford Design elements Line, shape, form, texture, color value Design Principles: balance, emphasis, movement pattern, rhythm. proportion, unity, variety Design basics integrated	Meetings: define, plan, <>prototype, user test<>, do, eval role definition and benefits bolman and deal: reframing organizations: material pull modeling: gantt chart thought diagram tools to collaborate needs assessment feedback: individual and role growth	GMU Exercises class discussions interviews: Dealer.com, MyWebGrocer
Entrepreneurship	**Web Development**	**Design Basics**
www.nfte.com	modern platforms: WordPress, Tumblr, Blogger html building design sync (platform to platform)	rule of thirds color design CRAP: contrast, repetition, alignment, proximity Skill build challenges: GIMP, Photoshop

	widgets self image: your personal portfolio social media: integration choices platforms: Instagram, SnapChat, FB, Twitter	
Programming / Robotics processing.org arduino tutorials: Code.org bot programming: bots and lego stage II creation	**Computer Hardware / Networking** pc/mac/linux basics: install hardware review: pc / mac OS config / use / options / workflow mobile OS: iOS, Android Networking peer to peer mobile small LAN / home setup, security, virus protection	**3D Printing** printer basics software / modeling 1st print challenge: pre-defined object design challenge: original creation: form and function
2D and 3D design 2D: Inkscape, GIMP, Photoshop 3D: SketchUp, TinkerCAD, Blender prototyping	**Instructional Design ISD** User Testing Kirkpatrick levels 1-4 prototyping	**Tool proficiency** solder vinyl design prototype hardware / hands on: TBD

Communication / collaboration, presentation skill building eval Capstone	**Capstone Project yr 2** Evidence of core elements design process final product	

Personal or Group Project

Self-Defined	**Skill Share**	**Collaborative Team**

principles
  mapping, timeframe
proposals
  projected outcome /product
process: rubrics
	list your skills to the lab for recruiting	principles
		roles
		  mapping / timeframe
		accountability
		proposals
		projected outcome /product
		process: rubrics

Sources

[Machines that make]

[Fab Lab creation list from MIT]

[Fab Lab Resources K-12]

RAPID PROTOTYPING

3D PRINTING
ROBOTICS
VINYL CUTTING

COMPUTER HARDWARE
NETWORKING
PC, MAC OS, LINUX

ENTREPRENEURSHIP
PROJECT MANAGEMENT
LEADERSHIP

NEW! FALL 2016

MAKER SPACE

Studio B

PROGRAM

IMAGINE SOMETHING.

CREATE IT AND CHANGE THE WORLD!

BURLINGTON TECHNICAL CENTER
WWW.BURLINGTONTECH.ORG

WWW.FACEBOOK.COM/BTCVT @BURLINGTON_TECH BURLINGTONTECHNICALCENTER

WORK WITH PROFESSIONAL MENTORS

BUILD SKILLS IN DESIGN THINKING

COLLABORATE WITH OTHER TECH CENTER PROGRAMS

DESIGN YOUR OWN PROJECTS

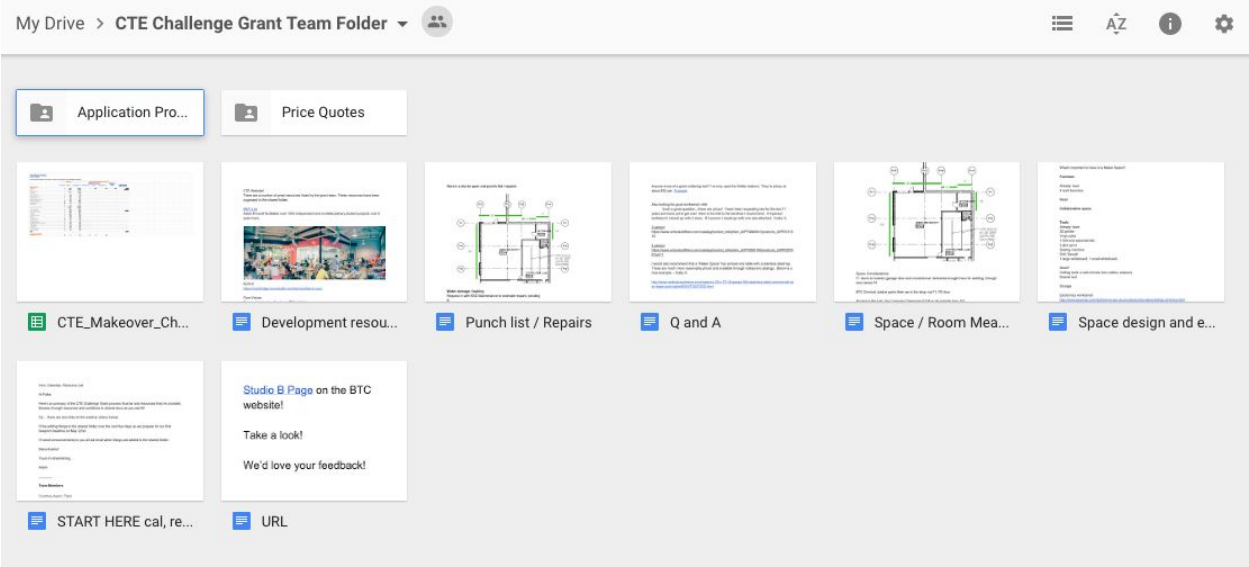
Studio B Page on the BTC website!

Take a look!

We’d love your feedback!

Team Resources

CTE Website!
There are a number of great resources listed by the grant team. These resources have been organized in the shared folder with the dev team.



[BBA rLab]
Adam Provost facilitated over 1000 independent and multidisciplinary student projects over 9 years here.

NUVU!
https://cambridge.nuvustudio.com/terms/what-is-nuvu

[Burlington Generator]

Local, Innovative, and connected!

Core Values
Science Leadership Academy, Philadelphia

Teacher PD modeling
Urban Academy, NYC