APPENDIX B: COURSE PROJECT ASSESSMENT MAP

TABLE II
GROUP PROJECT ASSESSMENT MAP FOR SPATIAL THINKING AND COMMUNICATING

TECH 106: Spatial Thinking and Communicating – Group Project Assessment Map

Project Intention:
- Assist students to develop the ability and skills to think and communicate spatially.

Group Project (25% of course grade)	Objectives	Student Deliverables	Grading Rubric
Phase I – Representing ideas in sketches and annotation (30%)	- Analyze existing AMTs provided in lab. - Determine how the mechanical box relates to the figure. - Propose a new AMT with its animated figure and mechanical box. - Present your idea to class (describe figure, how to achieve the necessary movement using mechanical box).	- Figure concept. - Mechanical box. - Presentation of concept to others.	1. Feedback from instructor and TA on proposal and sketches. 2. Major design changes will not be possible once proposal approved.
Phase II - Parts and Whole – Digital AMT model in SolidWorks (25%)	• Individual – become familiar with Solid works (two tutorials in lab). • Group – construct the component parts developed in Phase I using SolidWorks. • Group – assemble individually modeled components into mechanisms in the mechanical box model using SolidWorks. • Group – transform figure sketches into SolidWorks model (use abstractions). • Group: combine mechanical box and figure into a complete SolidWorks model that simulates AMT with moving parts as described in concept sketches.	• Individual digital components • Group: digital model of AMT with moving parts.	Digital Model: 1. Parts: Reasonable match with corresponding sketches. 2. Preliminary Assembly: Parts put together, captures design intent of AMT: functionality, structure, size, location, and spatial properties.
Phase III – AMTs Realized – Digital and physical models (30%)	• Modify digital models based on feedback received. • Produce components of AMTs. • Construct a box and attach assembled mechanisms. • Construct figure and mechanisms. • Attach figure to box.	• SolidWorks model of modified AMT. • Physical model of AMT. • One-page report describing how materials were chosen and modeling process, justification of materials selected, alternative materials and how "joints" were implemented.	Physical Model: 1. Functionality: - Design - Ease of use - Reliability 2. Aesthetics: - Construction. - Artistic impression.
Presentation & competition (15%)	- Short written report outlines what you learned about spatial thinking in the context of the course project. - Reflect upon the process the group went through from sketching to digital and physical design to construction of physical toy. Also the report should : - Relate to spatial thinking concepts learned in class. - Describe AMT design, mention reasoning involved in designing the AMT (e.g. explain types of motions, etc.). - Describe issues encountered during the design. - Summarize design process and include recommendations for future project ideas.	- Short Written report (750-1000 words). - Group presentation. - Peer evaluated. - Instructor evaluated.	Presentation: 1. Organization - clear results, sufficient detail. 2. Visual Aids: - graphic images, photos, drawings, physical prototypes. 3. Project demonstration: - mechanism works, reliable, reasonable complexity, appealing AMT 4. Familiarity with project (Q&A). 5. Time limit (20 min).

Resources for Group Project:
- Pencil and paper, digital lego, physical lego, SolidWorks, physical materials and supplies.
- Presentation technologies (ppt, etc.).

Appendix III

SFU Surrey campus vision

TechOne Case Study – Appendix III

SFU SURREY CAMPUS VISION

SFU Surrey is one of BC's leading university campuses for study and research. Offering distinctive nationally and internationally acclaimed programs, SFU Surrey promotes student success with a high quality learning environment based on our innovative teaching approaches, smaller class sizes, and vibrant research community housed in an award-winning facility.

Fully integrated with SFU's other campuses, the Surrey campus will grow to more than 5,500 students by 2015, including 500 international students and a thriving research community of over 1,000 graduate students. The following principles will guide SFU Surrey's expansion:

- SFU Surrey will offer distinctive undergraduate and graduate degree programs from all six SFU Faculties (Arts & Social Sciences, Applied Sciences, Business, Education, Health Sciences, and Science) in addition to a range of non-credit educational activities.

- SFU Surrey delivers a broad spectrum of interdisciplinary, research-based programs founded on our existing strengths in technology, management, human-centered design, and the integration of the arts and sciences. The study of the societal impacts of new technologies will expand as a research focus. We support the program and research opportunities made possible by our new urban campus south of the Fraser River, in one of Canada's fastest growing regions and accessible by SkyTrain.

- SFU Surrey students enter the campus through first-year cohort programs designed to provide a strong foundation for their academic career and exposure to a full range to provide a strong foundation for their academic career and exposure to a full range of disciplinary ideas. Our cohort programs allow students to take their courses in smaller groups that support peer learning through dialogue and rich interaction with professors.

- SFU Surrey offers students access to smaller classes and an intimate campus experience. We embrace innovative learning and teaching approaches and responsive experience. We embrace innovative learning and teaching approaches and responsive student services that support student learning. These may include but will not be limited to interdisciplinary programs, online learning opportunities, problem-based learning, and co-operative education.

- SFU Surrey's connection with the diverse communities of the South Fraser region is highly valued, and programs and initiatives that expand the University's reach in our community will have priority for development. SFU Surrey will continue to collaborate with educational, business, and other organizations in the region and will serve as an intellectual and creative resource through credit and non-credit education, research, industry liaison, and community outreach.

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Further resources developed under this ALTC Senior Fellowship, *Articulating a Transition Pedagogy*, are available at
http://www.altcexchange.edu.au/first-year-experience-and-curriculum-design