A PROGRAM TEMPLATE FOR COMPLETE INTEGRATION OF SUSTAINABILITY PRINCIPLES INTO ACCREDITED UNDERGRADUATE INTERIOR DESIGN PROGRAMS IN THE UNITED STATES

A Master Thesis
Presented to the Faculty of the Sustainable Interior Environments Department at the School of Graduate Studies, Fashion Institute of Technology in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Sustainable Interior Environments

by
Shannon Mary Leddy
May 2013

Mentor: Francine Martini
This is to certify that the undersigned approve the thesis submitted by

Shannon M. Leddy

In partial fulfillment of the requirements for the degree of

Master of Arts in Sustainable Interior Environments

______________________________________________

Grazyna Pilatowicz, Chairperson

______________________________________________

Francine Martini, Mentor

_____________________________________

Mary Davis, Dean, School of Graduate Studies
ABSTRACT

Undergraduate interior design education should be the starting point in fostering thoughtful behavior in order to build a healthy environment and economy while taking human well-being into account on all levels. It is the base upon which an interior design student can develop a true understanding of the scale and importance of a more sustainable future, and the interior designer’s role/responsibility in doing so.

This can best be accomplished through a seamless integration of sustainable interior design principles into an undergraduate interior design program and by transforming a curriculum into one that builds upon itself as the student moves through a program. What this means is that the basic groundwork of sustainable design fundamentals is laid out at the beginning of a program with more details presented as a student takes each course. Folded into this approach is the opportunity at every stage of the program for the student to apply what is learned practically in their coursework or in a school project.

It is the continued practice and consistent application of sustainable methodology in the performance and preparation of their schoolwork that offers the best chance for our future designers to create healthier, more sustainable spaces for all people to live, work, and interact. Students will learn to approach a design project in a way that promotes social equity, is mindful of economic growth considerations and one that will ultimately better protect the environment from further deterioration and degradation.

Implementation of sustainable strategies better serve client needs, promotes good health and helps to close the “Sustainability Gap” (Stieg), between design theory and practice. Undergraduate interior design education is the key to necessitate this change and the place where we need to excel and begin to move the profession of interior design to the next level.
The purpose of this thesis paper is to present a new paradigm for interior design education in the United States through the development of a Program Template. This Program Template can overlay any accredited undergraduate interior design program and be tailored to its particular approach and structure. The learning outcomes include students who have an awareness of and proficiency in the application of sustainability principles. These students will, subsequently, lead the field of interior design into the next phase of its future where sustainability is not an option but instead is an inherent part of what interior designers provide for and create. *Sustainable Design* will become just *Design*. 
PERSONAL STATEMENT

In my experience as a design instructor and a graduate of the FIT interior design BFA program, I can see firsthand that sustainability and its principles have not been given enough importance on the undergraduate level. I believe that if given guidance, leadership and knowledge on the subject, students will learn to use the data and information provided to them and integrate these ideas and principles into their design projects. The degradation of our environment and its resources is one of the major concerns of our time. Given the role interior designers have in society and the responsibility we have as educators to teach the next wave of the profession, there is really no choice but to begin to be more thorough in our approach and also be more open to new methods of teaching. If better equipped, these students will enter the field with a more solid knowledge base when it comes to the causes and effect of design to people, society and our economy (the Triple Bottom Line). Armed with that knowledge, they will be the ones to begin to affect change. If we give them the information and opportunity to apply what they have learned, they will begin to integrate that knowledge in their professional work.

The industry (manufacturers, suppliers, contractors) is moving forward in terms of sustainable innovation and development of sustainable technologies. The profession (interior designers and organizations) is pushing for the designers to take greater responsibility to guard the health, safety, and welfare of its clients and of the public. Yet, overall we are not taking a strong enough stance with respect to the educational arm of this relationship, nor are we demanding more from the members of the design community in terms of keeping their knowledge and practice up-to-date. As the industry is not yet able to provide total transparency and a fully sustainable product/process, the onus is on the educational institutions to change the tone and the approach throughout all levels of their interior design programs. By putting prepared
young designers who are well-rooted in their knowledge of sustainability principles out into the field and who will inspire and demand more as far as sustainability and innovation are concerned, we will indeed be on a better path. If there is a “Sustainability Gap” (Stieg, 2006), will it not be imperative that the profession also rise up to meet these students entering the field so that they can continue to be the generation that changes the cycle of negative impact? The protection of environmental resources, the health, safety, and welfare of people, and the promotion of social equity and economic health will continue to be of utmost importance. This is the timely opportunity to start young designers off on the right foot and inspire them to take design to the next level which includes sustainability on all fronts. This thesis paper focuses on the root of sustainability in design, which lies in education.

I believe in the power of design! I often tell my students, and myself, that interior designers have so much more power than they realize to make positive change, and that our utmost responsibility is to “protect the health, safety and welfare” (ASID, 2012) of people. Design is more than just “pretty” fabrics and “interesting” wall treatments, just like sustainability is more than just being “green” and protecting the environment. It is not that those are not equally important aspects, but sustainability and interior design encompass so much more! It is about the overall health of our environment, our people, and our economy.

“Knowledge is power,” so says Sir Francis Bacon, and my motivation for this Program Template for curricula is to build a case for full integration of sustainability principles into accredited interior design programs at the undergraduate level. Sustainability needs to be ingrained into the fundamental structure of a program so that a student can begin their development with a strong base of knowledge. This will surely encourage and inspire a generation of change and seamless integration of sustainability into the practice of interior design overall.
DEDICATION

For my nieces, Anna Clare and Mary Caitlin Leddy.

For all of my students, past and present.
ACKNOWLEDGMENTS

This thesis would not be possible without the kindness, knowledge and support of so many. I could not begin this any other way but to express my gratitude towards Grazyna Pilatowicz, my chairperson, my instructor, my colleague and my friend. It was your vision that brought my colleagues and I here. Thank you for your lifetime of determination and heart. Our accomplishments are your accomplishment and I hope we made you proud.

To all of my professors and advisors in the Sustainable Interior Environments program, especially Barbara Campagna and Susan Kaplan...You opened up a new world to me and have inspired me with your passion and knowledge.

To my colleagues from FIT Interior Design, especially Andrew Seifer, Eric Daniels, Nick Politis and Johannes Knoops...I thank you for your insight and experience, as well as your support and encouragement.

To the Studio I and II team, especially Phyllis Harbinger...Thank you for "hanging in there" with me, and for your considerate and supportive natures.

To Tara Magnotta, Ken Rabe and Liz Shih...I thank you for your time and your talents.

To my clients and students-past, present, and future...I dedicate my practice and my teaching to making this a happier, healthier, and more beautiful world for all! I look forward to sharing what I have learned with you and hope you will join me on the path.

To my friends and family...I thank you for your patience and your belief in me. Each chat, phone call and email of encouragement is cherished. Thank you also for not saying (out loud) how crazy I was to do this. I will be happy to rejoin you in life now that these 2+ years are complete.
To my brother, M...Thank you for being a role model for tenacity and determination. I hope you are half as proud of me as I am of you.

To my Mom...Your kindness, love and strength helped me through the most difficult part of all of this, as well as the every day. My whole life you have encouraged discipline and confidence. These values have allowed me to stand tall in this successful and beautiful life I have. There is nothing I have not taken on that I have not had your support and wise words to look to and to lean on. I told you I would do this, and I did it! I love you.

To my mentor, Francine Martini...There is really no one word to describe you because you are so many things to me, and you have done so many things for me. You are the epitome of "teacher" and there is no one better than you, my dear friend. This paper is a thesis because of you, Fran.

Lastly, to my “mates,” and I will name each of you because you deserve that: Larry, Michael, Olesya, Jessica, Christine, Elizabeth and Alina...You are my SIE family! Meeting and spending the majority of my time with all of you over the past two years has been, by far, THE BEST part of this whole crazy journey! You inspire me and make me better every day. Your friendships have sustained me and helped me to endure. We will forever be “The First” and will walk together for the rest of our lives! Thank you.

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.”

-Margaret Mead
TABLE OF CONTENTS

ABSTRACT .................................................................................................................. iv-v
PERSONAL STATEMENT .......................................................................................... vi-vii
DEDICATION ............................................................................................................. viii
ACKNOWLEDGMENTS ............................................................................................. ix-x
TABLE OF CONTENTS ............................................................................................. xi-xii
LIST OF FIGURES ....................................................................................................... xiii
LIST OF TABLES ......................................................................................................... xiv

CHAPTER 1 INTRODUCTION ...................................................................................... 15
  Thesis Statement ....................................................................................................... 16
  Statement of the Problem .......................................................................................... 16
  Purpose of the Study .................................................................................................. 17
  Definition of Terms ..................................................................................................... 20
  Limitations .................................................................................................................. 21

CHAPTER 2 CONTEXT ................................................................................................. 22
  Impact of the Built Environment ............................................................................... 23
  Current State of Sustainability .................................................................................... 24
    The Profession and the Industry .............................................................................. 24
    Interior Design Education ....................................................................................... 27
    Undergraduate Interior Design Students ............................................................... 28
  Current Educational Mandates Related to Sustainability .............................................. 30

CHAPTER 3 ANALYSIS ............................................................................................... 32
  Examples of Sustainable Interior Design Education .................................................... 33
  Sustainable Interior Design Education at FIT ............................................................ 40

CHAPTER 4 SYNTHESIS .............................................................................................. 44
  Developing the Program Template .............................................................................. 45
Learning Outcomes.................................................................................................................. 57
Measuring Success....................................................................................................................... 58
CHAPTER 5 CONCLUSION.......................................................................................................... 60
REFERENCES .................................................................................................................................. 62
APPENDIX A: STUDENT EVALUATION.................................................................................... 66
APPENDIX B: FIT INTERIOR DESIGN CLASSROOM CURRICULUM REFERENCE........... 84
LIST OF FIGURES


Figure 2: Rabe, Ken. “Model of Integration.” Shannon Leddy. 2013.

Figure 3: “About: Sustainable Sustainability Programs.” celfeducationorg. 
<http://celfeducation.org/About.html>.
LIST OF TABLES

Table 1: Leddy, Shannon. *Course Categories and Areas of Study.*

Table 2: Leddy, Shannon. *Sustainability Principles and Components.*

Table 3: Leddy, Shannon. *The Program Template.*
“Education is the most powerful weapon which you can use to change the world.”

-Nelson Mandela
Thesis Statement

In order for sustainability to become the norm in interior design practice, sustainability principles need to be integrated fully into the curricula of all accredited undergraduate interior design programs.

Statement of the Problem

The knowledge of sustainability principles by students in accredited undergraduate interior design programs in the United States is currently limited. Education is crucial to change the focus of the profession of interior design toward a healthier approach to the design of the built environment.

Undergraduate interior design education needs to be the starting point for sustainable development in interior design. Full integration of sustainability principles into an existing undergraduate interior design curriculum along with the opportunity to apply the new knowledge is the best approach to securing a more sustainable future.

Cathy Stieg and Susan Szenasy, two major proponents of sustainability in interior design, point to the importance of integrating the knowledge of sustainability into interior design and the role that education must play in the further development of a more sustainable future. In an integrative design process, a crucial methodology in implementation of sustainability principles into interior design, “the team works as a collective to understand and develop all aspects of the design. The design can then emerge organically, with the full benefit of each expert’s input” (Malin). This integrative design process is possible in an undergraduate interior design studio as well.
Stieg says that “by nature and necessity, sustainable design is an interdisciplinary, holistic, and highly integrative process” and suggests, “the academy, in particular the research universities, the profession (including the professional design associations) and industry must continue to collaborate to advance sustainable interior design and close the gap between theory and practice” (Stieg). She also reminds us that “the practice of sustainable design is not a skill or topic that, once learned, has been ‘accomplished’ and can be utilized and refined; instead it is a lifelong journey requiring continual education and vigilance” (Stieg).

David Orr, Paul Sears Distinguished Professor of Environmental Studies and Politics and Senior Adviser to the President at Oberlin College, has his own vocation that states “Our responsibility and relationship to the earth we’ve inherited and the earth we will bequeath--has an ancestry that runs as deep as any bloodline” (Janas). Says Szenasy “All education must be environmental; We are a part of nature!” Questions, however, remain such as: How do interior designers come to understand and utilize sustainable design?; Where does this journey of understanding and transformation to a more sustainable approach to design begin?; and How can education play a role in change?

**Purpose of the Study**

Undergraduate interior design education is the natural place to begin, where one can learn about sustainability theory, put sustainability principles into practice and explore the possibilities of sustainable interior design. This paper will focus on the content of an accredited undergraduate interior design program because many design schools with such programs are not yet sufficiently integrating sustainability principles into every part/course of their curricula. Today’s students are the interior designers of tomorrow. Without a solid base knowledge of sustainability and its practices, these future
professionals are not fully equipped to break the cycle of inadequate knowledge of sustainability. Students have the opportunity to create the necessary change in how we design the built environment.

Stieg offers that knowledge goes beyond data and facts, and is more about “how information and ideas can be used to come to conclusions or take action” (Stieg). This is exactly what an undergraduate interior design educational environment can encourage and foster. Design school is where students may not find all of the answers, but instead they can develop a forum that will help them in the future to navigate through the accumulation of information, studies, tests, standards, and ideas that sustainability principles encompass. Integration of such principles builds on existing design fundamentals and education to further one’s thinking, and re-focus design goals to include sustainability. Students can then creatively approach the possibilities and opportunities and learn what the best questions are to ask so to further integrate sustainability principles into their projects. If they learn sustainability principles early enough, and learn where the possibilities exist, then it will become an inherent part of their personal norm and eventually the norm of the design community. If equipped with the proper knowledge and forum to integrate their learning from the beginning, these future professionals will be able to make the most informed decisions for the sake of social equity, the environment and the economy. They will lead the charge as they enter the profession and will be the ones to promote a future that focuses on sustainable principles, allowing them to become the norm.

Mehmet O. Gurel believes that the multidimensionality of sustainability makes it “difficult to define and causes misconceptions; on the other hand, it fosters critical thinking, which helps maintain vigilance to seek absolute truths” (Gurel). Critical thinking combines fundamentals of design with creative problem solving and is an essential approach to teaching interior design. Critical thinking, consequently, opens a
student’s mind up to processing, exploring and incorporating sustainability throughout an interior design project. An undergraduate interior design program can be a place where such creative vision is encouraged. The classroom is a place to establish or be a part of an interior design team that fosters sustainable practices and champions the advancement of this essential course of life and study.

This paper first presents why interior design is such an important piece of the sustainability puzzle. Research and recognition of where the current state of knowledge is and where, realistically, sustainable design principles can be woven into undergraduate interior design curricula follows. Due to its multidimensionality, Gurel reminds us, sustainability is so difficult to define (Gurel), therefore it will be defined on its own, in the context of interior design and in the context of education. Principles of sustainability, around which new curricula will be formulated and suggested, are will also be defined. The result is the presentation of a Program Template for how to implement principles of sustainability holistically into an undergraduate interior design program. This Program Template also provides assessment tools for what the learning outcomes should be and how success will be measured according to the goals set forth.

All accredited undergraduate interior design programs can benefit from recommendations for curriculum change and the full integration of sustainability principles and practice in its coursework as outlined by the Program Template. In order to build the template and provide a model for how it works, the undergraduate interior design program at the Fashion Institute of Technology (FIT) will be used as a case study. This program currently brings some sustainability principles and ideas into its learning objectives and practice, but sustainability is not taught and discussed in a thorough enough manner to make a full impact and lasting change to interior design methodology.
FIT will provide a basis for application of this newly proposed approach to design curriculum, from which the Program Template is formulated that can overlay and be adapted to other accredited undergraduate interior design programs for implementation.

The goals of this new Program Template will be to immediately encourage discussion in accredited interior design programs and institutions around responsibilities and opportunities they have as design educators to plant the seeds of change in order for sustainability to take root and advance. The Program Template aims to create a shift in the interior design educational paradigm towards a curriculum that more wholly integrates sustainability principles into all courses and classes in an undergraduate interior design degree program. As the graduates who have been schooled under this new Program Template enter the interior design profession, it is the hope that over time, we will see a shift in approach to design through the application of design principles that lead towards a more sustainable and healthier built environment. The overall goal is that Sustainable Design will not be an option, but that one day it will be just Design.

David Orr views education as “the door out of the maze.” He wants to “take the door off of its hinges and reframe it.” Orr “advocates nothing less than a new paradigm for higher education” in order to make “long-term human future seriously” (Janas). The Program Template proposed here in this thesis will become the new paradigm for the integration of sustainability principles into undergraduate interior design education.

**Definition of Terms**

*Sustainability* is defined by the National Council of Interior Design Qualification (NCIDQ) as “a method of practice or use of materials that is capable of being continued with minimal long-term effect on the environment” (NCIDQ).
Sustainable Education is defined by Stephen Sterling as “a change of educational culture, one which develops and embodies the theory and practice of sustainability in a way which is critically aware. It is therefore a transformative paradigm which values, sustains and realizes human potential in relation to the need to attain and sustain social, economic and ecological well-being, recognizing that they must be part of the same dynamic” (Sterling). Sterling is a Professor of Sustainability Education, Centre for Sustainable Futures (CSF) at Plymouth University in Devon, UK.

Sustainable Design is defined as “a design philosophy that seeks to maximize the quality of the built environment, while minimizing or eliminating negative impact to the natural environment” (McClennan).

Limitations

Sample of researched accredited undergraduate interior design programs was limited in number, and in no way reflects the entire state of interior design education. Research of interior design programs was completed using information made available by schools that came in the form of websites with course descriptions as guides.

The findings of this paper were additionally limited by time and the extent of the research.
“We heal the earth,
We heal ourselves.”

-David Orr
The Impact of the Built Environment

Buildings contribute to approximately 40% of the global greenhouse gas emissions, specifically carbon dioxide, which are the main contributors to global climate change and the ultimate degradation of the Earth’s environment and its resources (EPA). This poses a threat to the health and safety of generations of human beings now, and in the future. Poor indoor air quality and existence of indoor air pollutants (from sources such as building materials and environmental systems) can lead to both short-term health issues, such as eye and throat irritation, and long term illnesses such as respiratory diseases and cancer (bluepoint.com). Considering that, according to the Environmental Protection Agency (EPA), people in developed countries spend 90-95% of their time indoors, this is a problem that needs to be addressed (EPA). Herein lies the responsibility that rests upon those working in the architecture and interior design sectors to become the global ambassadors and leaders for change. But the change cannot start in the profession alone.

In 2004, when writing for Metropolis magazine, Jack Elliot discussed the motivation for his Cornell University course DEA 422: Ecological Literacy and Design, which was offered through the Department of Design and Environmental Analysis at Cornell University. He said, “It has been estimated that up to 50% of the world energy and materials are utilized in the creation, operation, and disposal of the built environment.” It will not be enough to learn about these issues from a technical point of view (Elliot). Interior designers and architects have the clearest path to assist in making the most effective changes.
The Current State of Knowledge of Sustainability

The Profession and the Industry

Sustainability has made its way into the mainstream conversation, as evidenced by stories in the news, recent United States Presidential debates, and the multitude of blogs, websites, and new product development. However, the application of its principles and standards have not yet become the norm, or enough of a priority for the majority of interior designers. Interior designers hear about sustainability and know about sustainability, but left untrained cannot do much to convert that information into practice. Sustainability is still approached as an option, not a must. Therefore, we need to review and assess where exactly the learning is happening, how it is being approached, and to what degree. We also need to pinpoint where the learning of sustainability principles has its best chance to take hold and become the base for all design knowledge.

Sustainability has been a mere consideration in the interior design community up until now. Interior designers have had greater exposure to innovative sustainable products and processes and have seen the development of the Leadership in Energy and Environmental Design (LEED) rating system for buildings by the United States Green Building Council (USGBC). Stieg’s aforementioned “Sustainability Gap” in knowledge between design education and practice, speaks to the need for a stronger link between these two facets of interior design so that information can be better evaluated, managed and organized. This idea underscores the need for integrated, re-developed program curricula in all interior design undergraduate studies.

The profession and professional organizations such as the International Interior Design Association (IIDA) and the American Society of Interior Designers (ASID) have begun to advocate sustainable practices in their literature, educational offerings, competitions
and other activities. ASID, in their Position on Sustainability found under the “Knowledge” tab on their website states:

ASID believes that interior designers should endeavor to, whenever feasible, practice sustainable design. Interior designers should meet present-day needs without compromising the ability to meet the needs of future generations. (ASID)

While not specifically mentioning “sustainability” in their mission statement, IIDA alludes to the importance of the future generation of designers and the importance of human health. Their Statement reads in part:

IIDA, with respect for past accomplishments of Interior Design leaders, strives to create a strong niche for the most talented and visionary Interior Design professionals, to elevate the profession to the level it warrants, and to lead the way for the next generation of Interior Design innovators. The Association provides a forum to demonstrate design professionals’ impact on the health, safety, well-being and virtual soul of the public, balancing passion for good design and strategy for best business practices. (IIDA)

Both organizations also include topics on sustainability in the educational programs and forums they offer to their professional members. IIDA created its Sustainability Forum in order to “keep individuals apprised of current events, projects and research concerning this important and growing arena within the interior design profession” (IIDA). The forum’s objectives include educating the design community, as well as the public, as to the connection between sustainable design and the promotion of well-being among the people who inhabit the built environment (IIDA). ASID also partnered with the USGBC in 2008 to create REGREEN, a Residential Remodeling Program
(ASID). The program created a set of guidelines for interior designers, as well as the public, to apply to their green residential remodeling projects (REGREEN).

The industry itself is taking positive steps towards reducing negative impact on people, the environment and the economy along the lifecycle of products and materials. Examples include reclamation programs created by large carpet companies such as Shaw, or Interface’s own pledge to become a Net Zero company by the year 2020 (Interface). Other examples may include furniture designed for disassembly such as the Herman Miller Mirra Chair (Herman Miller) and the forward movement towards transparency with manufacturers voluntarily signing Healthy Product Declarations. Developed by the Healthy Products Declaration Collaborative, this is a “standard format that systematizes reporting language to enable transparent disclosure of information regarding building product content and associated health information, by defining the critical information that is needed by building designers, specifiers, owners and users” (HPD Collaborative). Companies, such as Perkins+Will, who developed their own Precautionary List of materials and chemicals, are committed “to promoting material health and transparency” in the built environment by “creating the industry’s first free, universally accessible database of its kind” (Perkins+Will) in the form of two websites. Such a positive framework has furthered the sustainability discussion and has provided an additional need for more thorough education.

The connection between the professional standards for an undergraduate curriculum of a Council for Interior Design Accreditation (CIDA) accredited interior design program, the design professionals (interior designers), and the design industry (manufacturers, suppliers, contractors) is a transactional relationship, meaning each relies and is dependent on the other constantly developing experiential and theoretical body of knowledge. If these facets of interior design are inextricably linked, there is a great opportunity to affect change from the beginning of the chain: education. The change
must begin at the entry level of the profession, in undergraduate interior design school. This opens up the possibility of deeper dialogues and sets the stage for consistent change that will continue as students learn and subsequently join the field of interior design. It is the hope that the Sustainability Gap will then begin to narrow.

**Interior Design Education**

The results of a study performed by Caimen Leigh Ruff and Margot A. Olsen measuring students’ “attitudes toward environmental issues” implied “that educators, who themselves are likely to be pro-environment, cannot merely assume that their students share the same values” and that “design educators need to set the stage for sustainability rather than just assume that students will embrace the concept” (Ruff, et al). From the initial exploration, we learned that in undergraduate interior design programs in the United States, faculty can generalize the teaching of sustainability in design and related courses. Sustainability may be taught as an overview or touched on during the discussion of certain design elements like building systems. "Socially responsible interior design professionals will be needed to ensure that the industry does its part in trying to conserve the Earth’s resources and in trying to develop more sustainable methods of design" (Ruff, et al). Interior design students are the next wave of interior design professionals. The role of the interior design educator is to recognize the need for the paradigm shift and to introduce pertinent information. The educator should formulate a response to the need for integration of sustainability principles by expanding the knowledge base that will allow for discussion and offer opportunities for application of newly established ideas.

The change has begun in various areas of education. Orr says that “our goal as educators is to present a sense of hopefulness to students and the competence to act on that hope” and not assume that “some mythical ‘they’ is going to figure it out. We have to figure it out (Janas).” Design educators must bring the information to the students
and allow them to apply this new knowledge to their designs. But it is not just design education that Orr’s goals encompass. Sustainability is a way of life at Oberlin College, across all fields of study and also outside of the classroom.

In his Metropolis article, Jack Elliot writes that “Designers must learn to love things natural before they will care for things natural; they must care before they will conserve and protect” (Elliot). Elliot speaks about methodology in formulating teaching techniques and his consideration of creative sustainability models to help him teach, translate and inspire. In addition to his self-professed responsibility “to ensure that my students are prepared for the demands of the profession,” Elliot believes that “knowledge of LEED and ecological design is no longer just a fringe benefit, but a professional necessity” and that “single classes like DEA 422 are not enough” (Elliot).

Research for this paper of some current curricula in accredited undergraduate interior design programs has revealed that many programs indeed offer just one course on sustainability and/or mention sustainability in other courses under topics such as building systems or environmental behavior. FIT Interior Design has one true course on sustainability called Ecology and the Built Environment. The program also introduces sustainability topics in some studio and building system courses, as well as in an elective on environmental psychology (Fashion Institute of Technology). Savannah College of Art + Design (SCAD) covers sustainability in its Building Construction and Systems for the Interior course by focusing on the “role of interior designers in improving the quality of the built environment” (Savannah College of Art + Design).

**Undergraduate Interior Design Students**

A questionnaire on sustainability knowledge and practice was given to a convenience sample of undergraduate interior design students from FIT in the spring of 2012 (see Appendix B). The sampling included students in their first and sixth semesters of
study. Results showed that many of the surveyed interior design students have, at the beginning, a media driven/product oriented definition of sustainability. They likely use words like “green,” or speak about only products and materials with the greatest comfort. Their responses can tend to focus on the basic “dos and don'ts of sustainability” such as recycling, *greenwashing*, and LED lamp use. Their initial interests in using more sustainable materials reveal a positive direction and an opportunity for educators to step in and teach more.

Students’ attitudes also tend to be open and enthusiastic toward learning more about and incorporating sustainability into their school work. The Ruff/Olsen study was “a convenience sample of 95 students enrolled in all levels of interior design courses at one regional, liberal arts university in the South” (Ruff, et al). The survey was divided into four parts, “Demographics, Ecology, Sustainability, and Comments” (Ruff, et al). The portion of their research that focused on sustainability was framed with regards to use of sustainable products and solutions in interior design projects. The study found that, overall, students have a “pro-environment” attitude, but there was a discrepancy between what the students thought they knew, and what they actually knew. This speaks to the need for additional education on sustainability principles so students don’t limit their knowledge to environmental concerns, leaving out the tenets of economy and equity (Ruff, et al). Students may not have been given the opportunity to apply what they have learned, which is the key to strengthening knowledge of sustainability and moving forward to practice it in the future.

David Orr also reminds us that “children raised in ecologically barren settings...are deprived of the sensory stimuli and the kind of imaginative experience that can only come from biological richness” (Janas). Design students come from all demographics and backgrounds and design school can provide the opportunity for learning and knowledge for the world that they may have lacked prior.
Further research shows that by the time students achieve their undergraduate degrees, they most likely will have all incorporated some sustainable principles in the form of environmental features (living walls, green roofs, rainwater capture, green fabrics and materials) into various school projects. There also is some attention paid to human behavior and universal design which are associated with the social equity aspects of sustainability. Many students do not have an understanding of why these sustainable attributes are important, and end up incorporating them on a superficial basis. In general, students tend to be better versed in environmental impacts and do not immediately see the economic and social equity considerations.

**Current Educational Mandates Related To Sustainability**

Archival research of policies, requirements, and recommendations by interior design educational groups such the Council of Interior Design Accreditation (CIDA), National Association of Schools of Art and Design (NASAD), and Middle States, as well as the Interior Design Educational Council (IDEC) and NCIDQ was performed. The goal was to define what is expected of undergraduate programs, such as FIT, in terms of educational standards and sustainability. This provided the basis for the Program Template and the *minimum* goals it sets out to achieve. These governing bodies of interior design education set the tone and create mandates and goals to be achieved by institutions in order to gain or maintain accreditation.

The current educational model from CIDA for accredited undergraduate interior design programs requires general standards and mandates be met for the consideration of sustainability in design, though sustainability is not its own standard. Out of sixteen standards, only Standard #2 and #14 in the CIDA 2013 Guidelines directly address sustainability or related principles. These are:
Standard 2 - Global Perspective for Design: Entry-level interior designers have a global view and weigh design decisions within the parameters of ecological, socio-economic, and cultural contexts...

Standard 12 - Environmental Systems and Controls: Entry-level interior designers use the principles of lighting, acoustics, thermal comfort, and indoor air quality to enhance the health, safety, welfare, and performance of building occupants. (Council for Interior Design Accreditation)

CIDA Standards are not, however, drawing a hard line describing what specific principles need to be taught, when and where, and how proof of the students’ application and understanding of sustainability is tracked. They are merely requiring minimums and have not/will not be enough of a catalyst for the real reorganization and change of accredited interior design education. However, these standards, as well as the other fourteen, do provide a framework for curriculum goals in general that are to be met by any interior design undergraduate program seeking accreditation. They also provide the perfect structure for implementation of the broadly understood “sustainability” as an overarching tenet of interior design. Therefore, they were considered when building the Program Template.
“Education is not the filling of the pail, but the lighting of a fire.”

-W.B. Yeats
Examples of Sustainable Interior Design Education

The research for this paper began with a review of the current state of sustainable design education in a selection of four-year undergraduate interior design programs in the United States. Such research has included a review of current curricula provided online through the websites of the various schools and through a selection of interviews.

The University of Minnesota (U of M) describes their program as being focused on “providing for human welfare by improving the quality of life and protecting human health and safety through design of interior environment,” and that students will “acquire a sense of responsibility to society, especially in the use of resources” (University of Minnesota). Their Sustainable Design Guide was developed in the 1990s, making them an early and enduring leader in the recognition and importance of sustainability. However, when reviewing course descriptions for their Bachelor of Science degree in Interior Design, the only mention of sustainability, or its related principles, comes within four courses and are highlighted in *italics* in the descriptions below:

**Interior Structures, Systems, and Life Safety:**

Codes, standards, regulations, and guidelines that govern design of interior space and support life safety. Integration of building systems. Structures for non-residential/residential occupancy. *Building/energy codes*. Lectures, guest speakers, field trips...

**Lighting Design:**

with interior/architectural elements. Lighting/fixture design. Computer visualization. Lecture, assignments, projects...

*Interior Design Ethics and Professional Practice:*

Business of interior design, *professional ethics, and responsible design.*

*Ethical theory/conduct. Responsibility to business, clients, colleagues, and community at large and globally...*

*Sustainable Commercial Interior Design:*

*Intent, requirements, submittals, technologies/strategies to achieve LEED CI standards in existing, new construction, or tenant improvement projects.*

(University of Minnesota)

The Interior Design program at Rocky Mountain College of Art + Design (RMCAD) in Colorado states that it is “essential that interior design students acquire and develop an understanding of the dynamic relationship between people and environments,” and that it prepares its students to “contribute to society as skilled, ethical, environmentally responsible professional designers who are committed to improving the health, safety and welfare of the public.” (Rocky Mountain College of Art and Design) This institution offers a *Green Design Area of Specialization* which goes deeper than many other interior design undergraduate programs. In this “Interior Design-Sustainable Design” specialization, “students can affirm their commitment to sustainable design while developing a portfolio of environmentally responsible work.” (The) option allows students to investigate and apply advanced studies in green/sustainable design using methods, products, and processes that minimize the ecological impact of design and construction upon the earth and its species” (RMCAD). The studio courses between the general Interior Design program and the Interior Design-Sustainable Design Specialization program are where the major differences between the two options lie, as the technical, business, history and other support classes are the same for both. The description for
the Residential Studio course for the Sustainable Design curriculum is listed below. It is the same description as that of the Residential Design Studio Course offered in the general Interior Design curriculum except for the portion in italics:

*Residential Design – Sustainable Design*

*Students will enroll in this version of the course to meet the requirements of the Sustainable Design Specialization.* This sophomore-level course examines the functional and aesthetic elements and considerations for residential environments within the context of current design philosophies, contemporary issues impacting housing and shelter, and best practices. Students investigate and apply design solutions for diverse client populations through projects that include appropriate space planning and spatial definition, furniture and finish selections, and presentation methods. *As part of the Sustainable Design Specialization, coursework must be completed using the sustainable knowledge and strategies obtained to date.* Upon successful completion of this course, students will have the ability to recognize, evaluate, apply and present different residential design alternatives using problem-solving strategies based on socio-cultural needs, contemporary issues for human function and behavior specifically for safe and supportive residential environment. (RMCAD)

It should be noted that the general Interior Design degree program does require both the *Introduction to Sustainable Design* course, which provides an “overview of the core philosophical and practical principles of sustainable design and introduces students to sustainability as an environmental and social issue” and the *Holistic Design* course which provides students with “an in-depth understanding and working application of
the theoretical principles and issues related to environmental behavior and sustainability as a part of ethical design practice” (RMCAD).

Overall, RMCAD presents another approach to interior design education by giving students a choice in their concentration. The written course descriptions allude to the curriculum building upon itself as a student moves through the program. The question however, remains: why are these studies in sustainability not a requirement for all undergraduate interior design students?

Seema Pandya, a graduate in the first class of the RMCAD Interior Design-Sustainable Design BFA Program and Adjunct Professor in the FIT Sustainable Interior Environments Master’s Program, says that the specialization “came into an already established, well-known program” where the “caliber of classes was very high,” and became somewhat of a “test on how well it [sustainability] would integrate” (Pandya). Pandya went onto to say that students in the general Interior Design program were indeed still exposed to the sustainability ideas and even gravitated towards incorporating them into their projects as well.

New York School of Interior Design (NYSID) in New York City offers a Bachelor of Fine Arts (BFA) degree program in Interior Design and recently began a Master of Professional Studies (MPS) degree program in Sustainable Interior Environments (SIE). They describe their BFA programs as having “emphasis is on creativity, effective verbal and graphic communication skills, technical proficiency, and sustainability” (New York School of Interior Design). With its focus on the development of critical thinking, the undergraduate program is “structured to produce graduates who are culturally, socially, and historically aware, and who have the knowledge and skills to create safe and pleasing interior environments” (NYSID). It allows for the application of sustainable theory into their design projects. There is mention of sustainability and its related principles in course descriptions, including classes on Contract Design, Design Process,
Environmental Science, and Environmental Behavior. In addition, there is an elective called *Introduction to Sustainability and the Built Environment* (NYSID).

The MPS program in Sustainable Interior Environments at NYSID is “structured to prepare design professionals to assume leadership roles in developing and maintaining sustainable interior spaces that will positively impact the world” (NYSID). The program was developed in response to the supposition that this “credential will only become more relevant as the world’s population continues to grow and natural resources continue to diminish” (NYSID). It is designed for working professionals to, in-part, put the students in a position to take the LEED Exam. Along with courses in topics such as history, theory, materiality, and daylighting, to name a few, this is a studio-based curriculum addressing both residential and non-residential projects (NYSID).

Graduate interior design and interior design-related programs often provide the opportunity to delve further into, and develop a deeper understanding of, sustainable design and its application. Students at this point should already have a strong foundation of sustainability principles allowing graduate level programs the opportunity to provide more in-depth research and exploration. In a 2012 article from *The Journal of Interior Design*, authors Joan Dickinson, Lori Anthony and John Marsden state: “The purpose of a first professional degree (the bachelor’s in most cases) is to provide a broad understanding and knowledgebase of a profession. The master’s degree, on the other hand, implies that the individual who obtains this degree has mastery over the subject matter and has acquired specialized knowledge.” The current state of environmental degradation and the impacts that it has on the health of people points to the necessity to develop a strong base knowledge of sustainability in undergraduate work especially given the knowledge that not every student will pursue a specialized graduate level degree. Such teaching, if done earlier in the curriculum, will make for an overall better prepared and more thoughtful designer entering the profession.
Research for this exploration of how current interior design curricula address sustainability principles also included the review of a comparative study, completed in 2011, by Professor Johannes Knoops, AIA, a full-time instructor in the FIT Interior Design department. The study looked at seven accredited interior design programs FIT is competing with. The profiled schools include University of Cincinnati, Pratt Institute, Savannah College of Art and Design, Syracuse University, Cornell University, New York School of Interior Design, and Parsons The New School for Design. The study included mission statements as well as curriculum culled from each school’s website. The research was initially compiled to compare overall structures and content of various interior design programs, but also noted which programs included sustainability in its areas of study. The analysis showed that each program incorporated some mention of sustainability in three of four major course categories: History/Theory/Criticism, Technical, and Design Studios. Any courses related to Representation did not cover sustainability according to the published information from each program (Knoops).

Writings by David Orr, and a review of Oberlin College, provide a particularly interesting model for integration of sustainability education in their Environmental Studies (ES) program. Though not an undergraduate interior design program per se, the ES program at Oberlin “seeks to create a learning environment that fosters an understanding of the causes and consequences of our environmental predicaments, as well as the creative problem solving skills to design a more sustainable relationship between humans and the rest of the natural world” (Green at Oberlin).

Orr, who teaches at Oberlin, “headed the effort to design, fund, and build” (Janas) the Adam Joseph Lewis Environmental Studies Center, completed in 1999. This center provides a “model for collaboration” in that the facility became a part of the curriculum and the learning in the ES department, as well for the whole of the Oberlin community and beyond. The Lewis Center “was conceived as a demonstration project, testing
ground, educational venue, and catalyst for the emerging field of ecological design. It was designed to be a building that would teach. Lessons embodied in its technology and design choices are intended to reinforce those taught in its classrooms” (buildingdashboard.net). Oberlin College literature states that “the Lewis Center exemplifies our teaching philosophy, which recognizes that real world experience and practical engagement complement traditional coursework” (Environmental Studies, Oberlin College). Information on the buildings ecological performance is made available constantly to all occupants and visitors of the facility, and work is being done on a regular basis to improve it as the opportunity arises.

Sustainability is not just a course of study at Oberlin, it is a way of life. Their website calls it a “Culture of Sustainability,” and when you “traverse the Oberlin campus...you’ll see evidence of sustainability everywhere, from energy efficient light bulbs to water resource monitors, from LEED-certified buildings and residence halls, to solar panels on rooftops. The entire college facility and the Oberlin community function as laboratories for environmental problem solving” (Green at Oberlin). Oberlin became one of the first institutions to sign the American College and University Presidents' Climate Commitment in 2006 and the university requires that any new construction on campus achieve a LEED rating (Green at Oberlin).

Barbara Campagna, AIA, a Preservationist Architect and an Adjunct Instructor of History in the FIT Sustainable Interior Environments Master’s Degree program sees current design history courses to be full of “dry academics.” She says that history “does not have to be linear” and can also be used to teach students not just about movements or survey, but rather “how to manage the environment.” Campagna believes that “critical thinking, evaluation and field study” are missing, and these will help with understanding and application of sustainability principles.
**Sustainable Interior Design Education at FIT**

FIT is the school selected as the model upon which the Program Template is built upon. FIT describes itself as “New York City’s internationally recognized college for design, fashion, art, communications, and business” (About, FIT). It is part of the New York State University system. The FIT Interior Design program, a part of the School of Art and Design, was developed more than 50 year ago and is presented as a “rigorous, multidisciplinary program [which] combines the academic study of the history and theory of interior design with practical, hands-on projects.” One can pursue an Associate of Applied Science (AAS) or a BFA degree in interior design, though the latter is encouraged. FIT Interior Design, a CIDA accredited program encouraging “creative vision,” emphasizes “the practical skills you need to get your project done.” Students in this program will “envision great spaces— and know how to build them, too” and will be taught “drafting techniques, computer modeling, lighting, and materials and methods, with an emphasis on sustainability and user health and safety” (Interior Design, FIT).

While FIT was an early pioneer of sustainability studies in undergraduate education through the introduction of the aforementioned *Ecology and the Built Environment* course in 1998, it has been less successful overall in integrating sustainable education into all of its classes. This makes FIT similar to many other accredited interior design undergraduate programs in New York City and around the United States, such as the other seven programs analyzed in the aforementioned Knoops study. This lack of full integration and holistic vision results in the students not learning the most effective way to respond to the growing needs of the profession, society, the environment and the economy.

As stated by Ruff and Olsen, “Design educators need to set the stage for sustainability rather than assume that the students will embrace the concept” (Ruff), therefore, assessment of the current knowledge of, experience with, and attitudes toward
sustainable design amongst the faculty of FIT’s Interior Design department was deemed integral to this research. This population also provides an important link to the profession and the industry, as nearly 100% of current faculty members are active in interior design and its related fields (AOP List).

Interviews were conducted with the current FIT Interior Design Department Chairperson, Andrew Seifer, and Assistant Department Chairperson, Eric Daniels, as well as a sample of interior design faculty teaching in a variety courses covered in the Program Template. The one-on-one interviews were conducted to ascertain how sustainability is currently being included in classroom teaching and where each interviewee feels this learning can best occur as defined by the proposed Principles of Sustainability.

Some interviewees were also members of the FIT Interior Design Curriculum Committee, which is currently evaluating the curriculum for overhaul and change. Insight from this group of people is valuable in determining the direction the program is moving towards in the future, and how important the incorporation of sustainability is in that vision.

The purpose of the interviews with the FIT chair and assistant chair was also to understand more fully what is being expected of the FIT Interior Design program for accreditation by CIDA. FIT Interior Design underwent CIDA Evaluation in April 2013, and their NASAD and Middle States reviews were completed in the fall of 2012. The 2013 FIT CIDA report has also been reviewed to see in what areas FIT interior design has achieved proper inclusion of CIDA standards for sustainability.

Eric Daniels, AIA, FIT Interior Design Assistant Chairperson who currently teaches Building Methods and Materials/Technology courses such as Building Codes and Environmental Systems, believes one of the problems with implementation of
sustainable design principles lies in the lack of “application” of them in class discussion and projects. Daniels says that we need to go beyond sustainability philosophy and address the issues professionals have “selling” these ideas to both shareholders and stakeholders. He also sees the opportunity for the program to dig deeper. For instance, when speaking about materials, “use” is the only phase currently addressed in a class project. The effects all along the entirety of a material’s life cycle should be explored.

Nicholas Politis, AIA, a senior member of the FIT Interior Design faculty who teaches Design Studios, Business Practice, and History/Theory courses, and is also a member of the Curriculum Committee, agreed with the lack of holistic vision that exists in the current FIT curriculum. Politis also points to “redundancy” in parts of the current program and feels that “assessment” is needed in these areas where teaching is repetitive. He suggests reorganization to remove current “stand-alone courses” that address sustainability principles and theory. This allows for implementation of “bodies of knowledge into (initial) design studios” instead. Examples of such bodies of knowledge would include “design theory and environmental behavior” (Politis). Recent assessment of FIT Interior Design by NASAD and Middle States also suggests that lower credit courses be phased out in favor of longer studios. This will allow for more opportunity to integrate theory, including sustainability principles, in the more holistic and stepped manner that Politis describes is currently missing. Politis goes onto suggest that FIT Interior Design can then “slowly build an emphasis” on “topics like codes, as well as tools related to sustainability principles, such as daylighting, as the students move forward in the program.”

Andrew Seifer, AIA, current FIT Interior Design Department Chairperson who is on the FIT Interior Design Curriculum and CIDA Committees, and who teaches Design Studios, Building Methods and Materials/Technology and Business Practice courses, went so far as to say that “Sustainability is the new ADA.” Seifer clarified this
statement by saying that sustainability is currently approached as a *minimum* to achieve in student design projects rather than a full practice to implement seamlessly and through application. This is much like the Americans with Disabilities Act (ADA) had been approached, and perhaps still is, since its inception in the 1990s. He went onto say that the FIT Interior Design curriculum in general, up to this point, was “done by agenda” and was “never a learning outcome approach” (Seifer). This points to the necessity for an openness and willingness for a paradigm shift by the educators and the program. Seifer believes that FIT interior design curriculum should encompass “awareness, proficiency, comprehension, and demonstration” (Seifer).

FIT Interior Design was unofficially recommended for CIDA Accreditation for another six-year term in April 2013 after its visit by the CIDA Evaluation Committee. The program was cited for its strengths which included: “Sustainability and how it proliferates throughout our program” (Seifer, Email).

In the spirit of remaining competitive with other higher educational institutions, the question of how holistically and how well FIT Interior Design is addressing sustainability in the curriculum will need to be more clearly defined according to the mandates set forth. In order to continue the past successes and previous recommendations for accreditation, this program must stay relevant. FIT Interior Design also has the chance to set the standard for excellence in sustainable interior design education.

It is worth noting again that mandates handed down from CIDA are not as concisely and specifically defined in terms of sustainability principles as the Program Template will require, but such accreditation is a standard that carries weight in the profession.
“...you have to design with positive principles and positive goals...What we seek is a delightfully diverse, safe, healthy and just world, with clean water, air, soil and power, that is economically, equitably, ecologically, and elegantly enjoyed.”

-William McDonough
Developing the Program Template

The Program Template has been developed based on knowledge of the most common facets of an undergraduate interior design program. This Program Template promotes a holistic, or complete, educational experience that begins to bridge the “Sustainability Gap” between design education and the profession. It represents a paradigm shift in undergraduate interior design education in the United States, in general, and is meant to provide a guide for application of sustainability principles for FIT Interior Design in particular. It can provide an educational model of integration for any accredited undergraduate interior design program to adapt to its own specific curriculum that integrates sustainability principles into all courses and classes. It is aimed towards achieving the goal of students gaining a greater sense of responsibility for their role as interior designers. The students will then, in turn, enter the profession motivated toward achieving a more sustainable and healthier built environment. As previously stated, the overall goal is that Sustainable Design will not be an option, that it will one day be just Design.

The specific courses in FIT Interior Design’s current program are grouped into five categories (see Appendix B). These were reviewed in order to best assess the means by which sustainability can be incorporated throughout all coursework. They were compared with other aforementioned accredited undergraduate interior design programs that have been researched for this paper. Analyzing the program structure in terms of Course Categories rather than individual courses will allow for this Program Template to be overlaid atop any accredited undergraduate interior design curriculum. The Program Template can then be tailored to that institution’s specific curriculum with the freedom to implement their own specific methods of teaching and projects.

Course Categories and the Areas of Study within each are listed in Table 1.
**Table 1: Course Categories and Areas of Study**

<table>
<thead>
<tr>
<th>Areas of Study</th>
<th>COURSE CATEGORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DESIGN STUDIOS</td>
</tr>
<tr>
<td>Fundamentals of Design</td>
<td>Environmental Systems</td>
</tr>
<tr>
<td>Concept Development</td>
<td>Building Codes</td>
</tr>
<tr>
<td>Space Planning</td>
<td></td>
</tr>
<tr>
<td>Design Development</td>
<td></td>
</tr>
<tr>
<td>Furnishing, Fabric, Finish, &amp; Equipment (FFF&amp;E) Selection</td>
<td></td>
</tr>
</tbody>
</table>
First, each Course Category was looked at under the lens of Sustainability Principles. In order to pinpoint the specific Principles which will need to be covered within the Course Categories defined in this Program Template, the *Triple Bottom Line* (TBL) was used as a base reference. (Figure 2)

First brought to light in 1994 by Robert Elkington, a pioneer of sustainability, in his book *Cannibals with Forks* as the Triple Bottom Line (The Economist), *Equity, Economy* and *Ecology* were presented as a base for incorporating sustainability into corporate business models. Modeled after the Sierpinski fractal triangle, McDonaugh and Braungart took the TBL further. They saw that the TBL created a greater emphasis on the best economic outcomes instead of underscoring the importance of all three sections in sustainable development and how they rely on each other.

![The Triple Bottom Line](image)

**Figure 1: The Triple Bottom Line**

Equity concerns the *people* part of the sustainability triangle and the social responsibility of interior designers. Economy is the measure of *profit* from sustainable design with the least “cost” to the environment, and the fiscally sound decisions necessary. Ecology measures responsibility and impact on the environment and *planet* (the Economist).
With the Triple Bottom Line in mind, the Program Template outlines the Sustainability Principles that each Course Category will integrate into its areas of study and learning objectives. In order to create talking points and to help develop the specific ideas of any given curriculum, recommendations are made for integration of these Sustainability Principles into each Course Category in the form of Components. Noting where the opportunities for adaptation can take place is key to the promotion of this Program Template.

These Sustainability Principles and their Components are outlined in Table 2.
Table 2: Sustainability Principles and Components

<table>
<thead>
<tr>
<th>Components</th>
<th>Ecology</th>
<th>Economy</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pollution Prevention</td>
<td>Water Conservation</td>
<td>Design for Adaptation</td>
<td>Professional Ethics</td>
</tr>
<tr>
<td>Local &amp; Developing Economies</td>
<td>Reduce Consumption to Minimize Waste</td>
<td>Professional Organizations</td>
<td>Ecology &amp; the Built Environment</td>
</tr>
<tr>
<td>Human Health &amp; Safety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Justice, Environmental Justice &amp; Labor Laws</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

49
There are some specific areas within each Sustainability Principle that have impact on more than one point of the Triple Bottom Line and therefore they are repeated.

"Energy Conservation" is a component of the Sustainability Principles of Conservation of Resources, Climate Change, and Pollution Prevention and refers to topics such as:

- Embodied Energy (use of existing buildings/building components)
- On-site Power Generation (Co-Generation systems and clean energy sources such as photovoltaics and wind power)
- Climate Controls (green roofs, vestibules, insulation and hi-performance glazing)
- Equipment (energy efficient types)
- Daylighting (building orientation, access and controls)
- Electrical Lighting (light sources/types, zoning and controls)
- Local Materials (acquisition and manufacturing)
- Modularity and Flexibility
- Durability
- Access to Public Transportation

When speaking of the component of “Water Conservation” in terms of the Principles of both Conservation of Resources and Climate Change, it refers to topics such as:

- Water-saving fixtures
- Gray Water systems
- Storm Water Management
“Materials and Products/Life Cycle Analysis (LCA)” is a component repeated in the Principles of Conservation of Resources, Pollution Prevention, and Human Health and Safety. Topics would include:

- Material Content/Toxicity
- Closed Loop Construction
- Maintenance Requirements
- Optimal Maintenance Practices
- Recycled Content
- Recyclability and Design for Disassembly
- Modularity/Flexibility (to reduce material use)
- Durability
- Rapid Renewal
- Biodegradability
- Appropriateness of Choice
- Certifications
- Impact on People Along the Life Cycle

Under the Principle of Fiscal Responsibility, the component of “Initial Building Costs” refers to the topics of:

- Design Process
- Integrated Design Teams
- Materials and Products
- Labor
Also under the Principle of *Fiscal Responsibility*, the component of “Operational Building Costs” includes the topics of:

- Energy Efficiency
- Water Efficiency
- Maintenance
- Durability/Longevity

The final component of the Principle of *Fiscal Responsibility* is “Occupant Fiscal Benefits” and refers to the topics of:

- Productivity
- Absenteeism
- Healthcare Costs

For the Principle of *Local and Developing Economies*, the component of “Supporting Local Economies” includes topics such as:

- Buy Local/Source Local
- Responding to Local Conditions/Design In Place
Under the Principle of *Human Health and Safety*, the component of “Indoor Environmental Quality” includes topics such as:

- Universal/Inclusive Design
- Indoor Air Quality (IAQ)
- Access to Controlled Daylight
- Lighting
- Acoustics
- Ergonomics
- Aesthetics and Beauty

Also under the Principle of *Human Health and Safety*, the component of “Behavioral Concerns” includes the topics of:

- Psychological Health
- Human Comfort
- Thermal Comfort
- Social Interaction
- Inclusive Design
- Design/Support for Positive Behavioral Change

Covered in the Principle of *Social Justice, Environmental Justice and Labor Practices*, the component of “Environmental Protection Laws” covers the topics of:

- Exploitation of Natural Resources
- Local Environmental Laws
“Labor Laws,” also a component under the Principle of *Social Justice, Environmental Justice and Labor Practices*, covers:

- Worker’s Safety
- Access to Healthcare
- Fair Wages
- Illegal Labor Exploitation: Slave and Child Labor

When the Sustainability Principles, their components and topics, overlay the Course Categories and their areas of study, the Program Template is formed. A graphic representation of this is seen in Figure 2.
The display of the Program Template illustrates how a curriculum under its influence builds upon itself from fundamentals and theory to example and implementation. The holistic nature of this new paradigm for accredited undergraduate interior design programs is the crux of the template, so it is important that when being considered for adoption, the entire picture is laid out. Where specific application of the Sustainability Principles can occur is seen in the Program Template found in Table 3.
Table 3: The Program Template

<table>
<thead>
<tr>
<th>SUSTAINABILITY PRINCIPLES</th>
<th>Design Studios</th>
<th>Life &amp; M &amp; M</th>
<th>Represet</th>
<th>Business Practices</th>
<th>History &amp; Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conservation of Resources</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Energy Conservation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Water Conservation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Materials &amp; Products/Life Cycle Assessment (LCA)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reduce Consumption to Minimize Waste</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Climate Change</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Energy Conservation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Design for Adaptation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Pollution Prevention</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Energy Conservation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Water Conservation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Materials &amp; Products/Life Cycle Assessment (LCA)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Fiscal Responsibility</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Initial Building Costs</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Operational Building Costs</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Occupant Fiscal Benefits</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Local and Developing Economies</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Supporting Local Economies</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Supporting Developing Economies</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Human Health &amp; Safety</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Materials and Products/Life Cycle Analysis</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Indoor Environmental Quality</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Behavioral Concerns</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Social Justice, Environmental Justice &amp; Labor Practices</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Impact on People Along Life Cycle</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Environmental Protection Laws</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Labor Laws</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Learning Outcomes

At the completion of the four years of study in an accredited undergraduate interior design program that has integrated this Program Template, students will:

- Recognize, acknowledge and value the impact of interior design on people and the global environment.
- Demonstrate a global perspective for interior design that assures their future decisions are developed with respect to ecology, economy, and social equity.
- Utilize in their designs the principles of sustainable development and design, and generate creative solutions that support the environment, economic well-being, and human behavior within interior spaces.
- Utilize tools available to address major areas of concern for interior environments.
- Utilize knowledge of interior construction, building systems and materials to enhance the health safety, welfare and performance of occupants; as well as the environmental and economic performance of the building/interiors.
- Effectively communicate using a variety of communication techniques and technologies appropriate to a range of purposes and audiences with the least environmental impact.
- Demonstrate an understanding of and commitment to ethical and accepted standards of practice, professional development and industry, and the value of their contribution to the built environment.
- Utilize knowledge of design theory, interiors, architecture, the decorative arts in both an historical and cultural context (Pilatowicz).
Measuring Success

The implementation of this Program Template can be divided into short-, mid- and long-term goals.

The short-term goal is the understanding and awareness of Sustainability Principles so that they become an inherent part of interior design education. This will require understanding of human impact on environments; knowledge of major concerns in interior design related to the health of people, the economy and the planet; use of appropriate vocabulary in lectures and discussions; and consequent integration of Sustainability Principles into the Course Categories.

The mid-term goals focus on the application of Sustainability Principles through school projects and designs. Evaluation of student work should show evidence of and comprehension of Sustainability Principles, and the ability to implement them into the overall design, selection of products and materials, and methods of interior construction. It should also include use of appropriate language in the verbalization of design concepts.

The long-term goals carry the learning into the profession of interior design so that it will embrace Sustainability Principles as an inherent part of design practice, leading to a healthier and environmentally and fiscally responsible built environment while addressing the Triple Bottom Line. Measurement will come in the form of project performance.

The Context, Goals and Learning Outcomes of the Program Template are demonstrated in Figure 3.
Figure 3: Mind map of Context, Goals & Outcomes
CHAPTER 5 – CONCLUSION

“Good buildings come from good people,
And all problems are solved by good design.”

–Stephen Gardiner
Sustainability Principles can, and should be, seamlessly incorporated into all levels and courses of an accredited undergraduate interior design curriculum.

The Program Template presented here does not require a complete re-writing of course outlines or a major curriculum overhaul of an existing accredited undergraduate interior design program. The Program Template illustrates how sustainability principles can be woven into all areas of study, not specific courses. The Program Template is flexible and customizable and aims to enhance what currently exists.

What the Program Template does require is a paradigm shift on the part of interior design educational institutions, their faculty, board of advisors and the community to implement it.

It is expected that as the result of having been schooled under this proposed holistic curriculum model that fully embraces sustainability principles, students will be attuned to what best options and alternatives exist already, and what still needs to be sought out in order for them to create healthy, functional and beautiful environments for their clients with the least negative impact on people, the economy and the environment. They will have the attitudes and information required to fully integrate sustainable design into the practice of interior design. The Sustainability Gap will begin to close.

It is the opinion of the author that it is necessary for the profession to lend support to the necessary paradigm shift in the model of education and to meet graduating students with their own sense of willingness and openness to change. This will be the next step, as sustainability is a key component of our designs and the future of the world.
REFERENCES


   <http://www.fitnyc.edu/AboutFIT.asp>.

   <http://www.regreenprogram.org/about>.

   <http://accredit-id.org/faculty-programs/accreditation-process/>.


Politis, Nicholas. Personal Interview. 6 Feb. 2013.


APPENDIX A:

Student Evaluation of Behavior Towards Sustainability in Interior Design Education.

Abstract

This study presents the phenomenological research examining the awareness and knowledge of sustainability, and its three pillars (environment, economy, equity), by interior design students at the Fashion Institute of Technology (FIT). This paper compiles research on sustainability in interior design education at FIT along with the presentation of the results of written surveys given to interior design students at varying levels of their design education. It seeks to find out how sustainability may or may not have influenced their choices in area of study and institution, how the current curriculum has or has not informed their attitudes towards sustainability in an interior design context, and whether they feel prepared or compelled to practice sustainable principles as interior design professionals upon graduation.

The sampling represents the diverse backgrounds of the FIT Interior Design student, including those who matriculated directly out of high school into the program, as well as those charting a new career path. It will include, by chance, various age ranges and genders. It will also include students from diverse backgrounds in terms of where they are originally from and where they grew up, both Americans and international students. This stratified pilot studies focused on one class of first semester students, as they have just entered the FIT interior design program. It also surveyed three classes of sixth semester students, who are just beginning to work on their thesis project proposals, have taken environmental systems courses and are preparing for their final year of school before graduating with their Bachelor of Fine Arts Degree (BFA) in interior design.
The first portion of the study looks at what may have influenced first semester students' early attitudes toward sustainability (such as their backgrounds and culture, sensory experience, and previous schooling), whether or not concerns over sustainability have moved them towards this field of study in the first place, and what were their expectations are of the curriculum going into the program at FIT. Their definition of sustainability was sought out as a general early measure.

The sixth semester students represent the second portion of the study. Their own definition of sustainability was sought, as well as their attitudes towards selection of materials and methods of design based on what has been presented and taught to them thus far in the design curriculum. The study explores their behaviors and methodology in approaching their projects: Have they been moved to include sustainable principles into their work, and if so, by what or by whom? And they were asked to assess FIT's approach to sustainable design education and whether it has met, exceeded, or been below their expectations. The survey sought to find what was most important to FIT interior design students when it comes to sustainable design principles, and what has influenced them most in terms of their education. They were asked if they feel equipped to work on sustainable projects once they graduate from the program and begin working in the interior design profession. They were also asked if sustainability was of interest to them in the first place.

It is suspected that the study will find that most first semester students have a media driven/product oriented definition of sustainability at the start, and will probably use words like "green" or speak about products and materials with the greatest comfort. The attitudes will most likely be open and enthusiastic toward learning more about and incorporating sustainability into their work, but the basis of their knowledge is limited; therefore, they will not realize yet the extent of the guiding principles of sustainability (beyond Environment) in order for them to truly make better decisions. Their
behaviors, though misguided and misinformed through such things as "green washing", will probably focus on the basic "dos and don'ts of sustainability" like recycling and CFL and LED lamp use.

The sixth semester students will have a greater knowledge to cull from, as they will have begun to read and research more items related to their projects and studies of methods and materials and design principles. The willingness to learn will still be there, but the lack of a budget in their projects and timing to get it all completed for a grade will supersede the time needed for proper research and knowledge of sustainable methods and product. There will likely be more of a reliance on professors to guide them and force them to ask the harder questions. The level of knowledge and enthusiasm of their professors in terms of sustainability is questionable and inconsistent from instructor to instructor as well, so there may be a learning curve. These students are on the cusp of their thesis where they will have to incorporate some sustainable principles in terms of environmental considerations (living walls, green roofs, rainwater capture, green fabrics and materials), and have yet to take the lone course most focused on sustainability, “Ecology and the Built Environment,” which is an elective in their last year of study. Attention to the behavioral aspects associated with sustainability and universal design may be greater, as they will have taken a course on environmental psychology, but all of the connections will not be made and a holistically sustainable result will not occur. The practice of sustainable methodology in the performance and preparation of their actual thesis presentation will probably not have been considered either.

Overall, most students at both levels are expected to be most well versed in environmental impacts, and not immediately see the economic and social equity considerations that sustainability also encompasses, and these are key components of the movement.
The Process

The first semester students, or Group 1-A as they are identified, were sampled in their Studio I classroom without introduction of any sort by their instructor, though the researcher asked permission to do so a week prior to the visit. The researcher introduced herself as a current FIT Interior Design instructor as well as a Sustainable Interior Environments Master’s student working on her thesis. The students were asked if they would mind helping the researcher out by answering some questions about sustainability and their interior design studies. They were asked to answer the questions honestly and encouraged not feel as if they had to give an answer that they “thought the researcher was looking for.” The students were presented with a brief written survey of 12 questions and were told that the survey was optional and completely anonymous with each document being marked as having being taken by a first semester FIT Interior Design student. Out of 17 students, 14 agreed to take the survey, while 3 declined. All copies of the survey were returned back to the researcher within 15 minutes. The researcher thanked each student as they handed in their surveys and thanked the class again, and their professor, before leaving.

The sixth semester students were sampled in three different classes. Group 6-A, comprised of 14 students was sampled during their Methods and Materials II class; Group 6-B, comprised of 9 students, were sampled during their Presentation Techniques III/Portfolio Class; Group 6-C, comprised of 18 students, were sampled during their Methods and Materials II class. Each professor was contacted ahead of time by the researcher to get approval to visit the class. The professor for Group 6-A introduced the researcher as a current Interior Design professor who some students may have had before in a previous class, and a current Master’s student in the FIT Sustainability program. The researcher further clarified the introduction by telling the students that she was “in the trenches with them, working on her own thesis,” as she knew they were and asked them if they might be willing to help her out with her
research by answering questions in a short written survey. She emphasized that the surveys were completely anonymous with each survey marked as having been taken by a sixth semester FIT Interior Design student. She also asked that each be completely honest and encouraged them to not give answers that they thought were the ones the researcher "wanted to hear." The optional survey was about sustainability their personal experience with it, and their interior design educational experience with it. All students agreed to take the survey, and one came up to the researcher and noted that she was in eighth semester. She was told that she was still welcome to answer the survey, but was asked to write “Eighth Semester” at the top of her survey. The students completed the survey within 15 minutes, and they were thanked for their participation not only in writing on the surveys themselves, but in person as they handed in the papers. It should be noted that some typos and one repeated question (questions #6 and #8 were the same question) were found. The students were alerted of these errors and told how to remedy them. These errors were corrected prior to the survey being administered to Group 6-B and Group 6-C.

The same written survey was administered to Groups 6-B and 6-C. In both of these cases, the researcher was not introduced by the instructor, so she proceeded just as she did with Group 6-A explained above. All students in both classes agreed to take the surveys and each group finished in under 15 minutes. There were 2 typos in this survey, but no student pointed them out and they do not have any bearing on the survey or the results. Students were again thanked for their participation in writing at the end of the survey itself, and in person as they turned them in upon completion.

Questions in the surveys touch on four major categories pinpointed as crucial by the researcher. These are awareness of sustainability and its influences, behavior in their everyday lives and design lives in terms of sustainability, interior design education in terms of setting their educational goals and how sustainability ties in with evaluation of curriculum under the microscope of sustainability, and thoughts on entering the
profession of interior design in terms of goals and preparedness (as an interior designer).

**The Results**

For Group 1-A (first semester students) the researcher attempted to survey 17 students, with 4 choosing not to participate, therefore a 76% participation rate. The results are as follows:

Question #1 asked the student to define sustainability in 50 words or less, and to summarize, 5 students referenced the word "environment" in their answers, with many referring to impact and use of materials and energy. Questions #2 and #3 related to the students experience with sustainability in high school, with most (10 of 13, or 77%) stating that sustainability was NOT a part of their high school curriculum. The 3 that said yes all said it was mentioned in non-art/design courses, and one mentioned that there was a "Go Green" group that worked to combat lunch waste.

**CHART 1-1: Question #2-Sustainability in High School**

![Chart showing sustainability in high school](chart1-1.png)
Question #4 asked where they thought they learned most about sustainability or Being Green" and a number of respondents circled multiple answers. 7 students responded "Media" (TV, periodicals, and/or internet), while 4 responded "Family", and 3 responding "School". One student said that "Friends" influenced them, while one student cited "Work" as a write-in under the option of "Other."

| CHART 1-2: Question #4 - Where They Learned About Sustainability or "Being Green" |
|---------------------------------|-----------|----------------|-----------|-----------|-----------|
|                                  | Family    | Friends       | Media     | School    | Other (Work) |
|                                  |           |               |           |           |             |
| recycle                         | 9 students| 2 students    | 2 students| 1 student | 1 student   |
| reused water bottles            | 2 students| 2 students    | 2 students| 1 student | 1 student   |
| turned off the lights            | 2 students| 2 students    | 2 students| 1 student | 1 student   |
| reused dishes                   | 2 students| 2 students    | 2 students| 1 student | 1 student   |
| family owns a windmill           | 1 student | 1 student     | 1 student | 1 student | 1 student   |

Question #5 asked the students to tell us what they did in their everyday lives that they deemed "sustainable." Recycling was by far the top answer (9 students) with 2 students each saying that they Reused Water Bottles, Turned off the Lights, and Reused Dishes. There were 16 other different answers that were said by one student each with one student explaining that their "family owns a windmill, so at home electricity is green."

In Question #6, students were asked "What (3) words would you associate with "sustainable design?" Again, answers were varied with the word "Green" being most used by 5 students. Forms of the word "Reuse" and forms of the word "Recycle" were offered by 7 students each. 16 other words were given with "Refurbished," "Conscious," and "Hybrid" amongst them.
Question #7 asked the students to rank how important the study of sustainable design was when selecting interior design as their major. 6 students each said "Very Important" and "Moderately Important" while only one student said it was "Not Important" at all.

Question #8 asked the students to tell us why they chose FIT as their college in 50 words or less. Students cited affordability most (7 students), with location, great reputation, and interior design program description as other reasons. Sustainability in the Interior Design Program was not an answer given.

When asked in Question #9 if they knew whether FIT Interior Design included sustainability in its curriculum when they applied, there was a near even split in answers with 7 saying "Yes" and 6 saying "No."
Question #10 was asked so that students could determine whether or not sustainability was mentioned or discussed in the specific areas of study for their Interior Design Studio One class. This would begin to measure the role the FIT curriculum begins to play in the student’s knowledge and awareness of sustainability. Most students recalled that sustainability was mentioned in the Course Introduction, in the lectures about Human Factors and Lighting.

![Chart 1-3: Question #10- "Sustainability" in Studio I](image)
Question #11 asked how many students were moving onto the 2nd semester. All 13 students responded "Yes." This question was asked so the researcher knew where these students stood when it comes to furthering their design education and helps make the final Question #12, which asks how important sustainability education to them is, relevant. 6 students said "Very Important," while 4 students said that they were "Open to it, but that it was not a priority." 2 students selected "I don't care either way" while one student selected "I prefer not to pursue this area of study."

**CHART 1-4: Question #12- Importance of Projects Incorporating Sustainable Principles Next Semester (Studio II)**

- Very Important to Me
- Open to it, but Not a Priority
- I Do Not Care Either Way
- I Prefer Not to Pursue
For Groups 6-A, 6-B, and 6-C (6th semester students), the researcher attempted to survey 41 total students, with all of them agreeing to it, therefore a 100% participation rate. The results are as follows:

For Question #1, the researcher also asked this group to define sustainability in 50 words or less. Like the 1st semester students, these answers were diverse, and focused more on the role of “design” in sustainability. There was still a large mention of words like “environment,” “reduce,” and “materials.” One student defined it as “Design that considers the future. Sustainable Products, materials, and design that has a low impact on the environment, is recycled or recyclable, and possibly even beneficial to the environment.”

In Question #2, the students were also asked if sustainability was a part of their curriculum in high school or previous college. “Previous college” was added, as it was mentioned by a student in survey of Group 1-A, so the researcher made the adjustment. Much like the results from the 1st semester students, an astounding number, 38 of 41 students, said that it was not (SEE CHART #6-1).
In the follow-up Question #3, students with prior experience with sustainability in schools noted that it came in the form of a “Highline” Project in a Parsons School of Design course on Sustainability and Resiliency, and was talked about in classes, but not required.

Question #4 was also a repeat of a question posed to the 1st semester students with regards to where they learned the most about sustainability or being green. It is interesting to see that half of those in this sampling said “School” (28 votes), with “Media” still strong at 16 votes. “Family” and “Friends” counted for 2 and 1 vote(s) respectively, and 8 votes came in under the “Other” category with write-ins of “Personal Interest,” “Professors,” “Work,” and “Books.”

**CHART 6-2: Question #4-Where They Learned the Most about Sustainability or "Being Green"**
As was the case when this was asked of 1st Semester Students, Question #5 “What do you do in your daily life, if anything, that you believe to be sustainable, rendered over 20 different answers. (See Chart 6-2) “Recycle,” however, was named by 23 students, which is more than half. “Use Reusable Shopping Bags came in at 12, and Reuse Water Bottles was mentioned by 8 students. Other answers included “Turn off Lights,” Take Public Transportation” and donate or sell unwanted items to “Thrift Stores.” 2 students admitted to doing “Nothing.”

![Chart 6-3: Question #5- Sustainability in Their Daily Lives]

Question #6 asked students to remember how important sustainability was to them when selecting interior design as their major. 8 recalled it as being “Very Important,” 21 as being “Moderately Important,” and 12 said it was “Not Important.”
Question #7 asked them to use 3 words that they would associate with “Sustainable Design.” More popular or trendy words like “Green” were still a popular answer with 18 students using it, as was varying forms of the word ‘Recycle,” which also was used by 18 students. 13 students used varying forms of the word “Reuse.” One student used the term “Cradle-to-Cradle” and 2 mentioned ‘LEED” which are more specifically sustainability terms. It is interesting that most words (See Chart 6-4) reflected materials or the environment and had less to do with “Equity” and “Economy.”

CHART 6-4: Question #7-Words Associated with "Sustainable Design"

Question #8 was a repeat of Question #6 in the sampling, so it was thrown out.
To begin to see the role that the FIT Interior Design Curriculum has had in their incorporation of sustainability in their Design Studio Projects, and where the motivation to do so comes from, Questions #9 and 10 were posed. Question #9 asks in which areas of a Studio Project have they incorporated sustainable design principles.

CHART 6-5: Question #9-Sustainable Design Principles in Their Studio Projects
On the answers to Question #10, which asks where the motivation to do so came from, 31 students said that they did it on their own, while only 11 said that it was a requirement, and just one student wrote in that they were “Pushed by a Teacher” to do so. One person admitted to not incorporating such principles into their Studio Projects at all (See Chart 6-6).

CHART 6-6: Question #10-Source of Motivation for Incorporation of Sustainable Principles in Design Projects

- Project Requirement
- Decided on my Own
- I Have Not Incorporated
- Pushed by a Teacher
The students were asked in Question #11 if they have been “satisfied with the amount or way that sustainability has been incorporated” in said curriculum, and ¾ of the students said “No”. (See Chart 6-7) In Question #12, students were asked to explain their answers and to summarize students touted the overall importance of the integration into the curriculum and some even mentioned that it be carried through to board presentations and beyond materiality. There was some mention of inconsistency amongst professors and their teaching.
Given their feelings, it was important to delve further into the issue of the quality of the sustainable education that they are getting in terms of categories of course type. The opportunity to rate the courses came in Question #13. (See Chart 6-9)

**CHART 6-9: Question #13- Rating the Quality of Sustainable Design Education in Specific Courses**

The Final 2 questions to the 6th Semester Students pertain to the pursuit of their career as an interior designer in the profession and their desire for further sustainable design education. For Question #14, students were asked if they would feel prepared if they were graduating today to work on a sustainable project. 14 answered yes, and 27 answered no. When asked in Question #15 if they planned to pursue further education in sustainable interior design, 28 students said “Yes,” while 9 said “No.” 3 students said “Maybe” while one did not answer the question.
### APPENDIX B:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ID 115</td>
<td>Design Fundamentals; Residential Apartment</td>
<td>ID 133 Presentation Techniques I</td>
<td>ID 121 Survey of Interior Design</td>
<td></td>
</tr>
<tr>
<td>ID 116</td>
<td>Residential Apartment; Small Corporate</td>
<td>ID 157 Drafting for Interior Design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 212</td>
<td>Retail Design; Corporate Design [2]</td>
<td>ID 134 Presentation Techniques II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 214</td>
<td>Hospitality Design; Corporate Design</td>
<td>ID 158 Perspective Dwg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 253</td>
<td>AutoCAD I</td>
<td>ID 233 AutoCAD II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 241</td>
<td>Lighting Design I</td>
<td>ID 255 AutoCAD II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 243</td>
<td>Materials/Methods of Int. Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 254</td>
<td>Working Drawings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 256</td>
<td>Professional Practice I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 314</td>
<td>Advanced Residential Design</td>
<td>ID 222 Interior Design 1850 – 1950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 341</td>
<td>Lighting Design II</td>
<td>ID 221 Interior Design 1850 – 1890</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 343</td>
<td>Materials/Methods of Int. Construction II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 346</td>
<td>Interim Architectural Detailing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 361</td>
<td>Computer Rendering</td>
<td>ID 323 Interior Design 1950 – Present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 362</td>
<td>FFF &amp; E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 412</td>
<td>Advanced Retail Design</td>
<td>ID 365 Building Regulations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 441</td>
<td>Furniture Design</td>
<td>ID 362 FFF &amp; E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 491</td>
<td>Senior Thesis Design Project</td>
<td>ID 494 Senior Thesis Design Research/Programming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID 445</td>
<td>Interior Product Design</td>
<td>ID 421 Historic Preservation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LOWER DIVISION**

**UPPER DIVISION**