Program Review 2021-2022

Building Construction Technology

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Table of Contents

General Information 1

2021/22 Program Review 2

2021/22 Program Review Form 2

Reference Section 3

Mesa2030 Comprehensive Master Plan 3

Roadmap to Mesa2030: Strategic Plan 2021-2026 3

Mesa Data Dashboards 3

Requests Forms 4

Request Portal 4

Appendix 5

General Information (Program Review 2021-2022)

2021/22 Program Review

2021/22 PROGRAM REVIEW FORM

Form: 2021/2022 Program Review (See appendix)

File Attachments:

1. **BLDC PR Questions.pdf** (See appendix)

Reference Section

MESA2030 COMPREHENSIVE MASTER PLAN

ROADMAP TO MESA2030: STRATEGIC PLAN 2021-2026

MESA DATA DASHBOARDS

Requests Forms

REQUEST PORTAL

Appendix

A. **2021/2022 Program Review** (Form)
B. **BLDC PR Questions.pdf** (Adobe Acrobat Document)

Form: "2021/2022 Program Review"

Created with : Taskstream
Participating Area: Building Construction Technology

2021/2022 Program Review

(REQUIRED) Name of Lead Writer and Manager/Service Area Supervisor

Lead Writer: Ian J. Kay, Emeritus Professor/Adjunct Instructor

Co-Lead Writers: Valerie Abe, Associate Professor & Department Chair

Robert Wong, Associate Professor & Assistant Department Chair

Manager/Service Area Supervisor: Pearl Ly, Dean, Social/Behavioral Sciences

and Multicultural Studies

(REQUIRED) In what ways (if any) did changes to an online/remote modality due to COVID-19 impact student success and equity in your area/program? Please provide evidence.

The online/remote modality due to COVID-19 directly impacted student success and equity in the Building Construction Technology Program as 100% of the courses are considered *pure* lecture courses. In addition, by choice, lecture courses were not taught online prior to the requirement to do so due to the pandemic even though they were approved for online instruction previously. The initial shift to online/remote instruction at the start of the pandemic, was somewhat traumatic for the majority of our students and faculty.

The following outlines those impacts since the last Program Review cycle:

- Many of our students and a majority of our faculty, had never taken or in the case of faculty, taught online prior to the pandemic. This shift created a steep learning curve for students and faculty. During my tenure as Department Chair and subsequent conversations with faculty, the majority stated that it was difficult to maintain the significant standards they expected from their students and themselves due to everyone's unfamiliarity with online/remote modality. Student success was certainly impacted, particularly during the first months of the pandemic. It is still an issue.

During my tenure as Department Chair and subsequent conversations with faculty, the majority stated that it was difficult to maintain the significant level of interest they expected from their students.In the Building Construction Technology Program, face-to-face instruction is critical to student success.

- Many of our students, particularly those who face financial hardship, do not have computers that can accommodate the advanced software we require. In addition, students may not have drawing and layout tables available for non-computer based assignments. Those students facing inadequate space, equipment, computer and financial issues, utilize our studio/labs to work as they are available from 9:00 am until 9:00 pm most days. This leaves many of our students at a disadvantage. This is a key issue with respect to student success and equity for all of our students.

It should be noted that a number of faculty did not have computers that could accommodate the advanced software required along with any requisite software upgrades required to handle the shift to online/remote instruction.Again,

The general consensus amongst faculty, is that issues of face-to-face instruction, lack of appropriate equipment and access to classrooms relate directly to the increase in withdrawals overall. Based on the data collected, the following should be noted:

Withdrawal Rates

Lecture Courses

- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **average withdrawal rate** was 14.0%+/-. The withdrawal rate for Spring 2020 was 19.0%+/- and for Fall 2020 was 18.0%+/- significant increases in withdrawals at a critical phase in the pandemic timeline.
- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **lowest withdrawal rate** was 7.0%+/- for the Spring 2019 semester. Again the withdrawal rate for Spring 2020 was 19.0%+/- and 18.0%+/- for the Fall 2020 Semester, significant increases at a critical phase in the pandemic timeline.

In looking at the three ethnicities with the most significant enrollments in the Building Construction Technology Program, the following should be noted:

- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **average withdrawal rate** for Latinx students was 45.0%+/-. The average withdrawal rate for Asian students was 3.3%+/- and for White students the average withdrawal rate was 44.0%+/-.
- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **highest withdrawal rate** for Latinx students was 29.0%+/- for the Fall 2020 semester. Again the highest withdrawal rate for Asian students was 4.3%+/- and for White students the highest withdrawal rate was 19.0%+/- for the Fall 2020 semester.

It appears there is validity to faculty concerns regarding student withdrawals during critical phases in the pandemic timeline.

- During my tenure as Department Chair and subsequent conversations with faculty, the majority stated that it was difficult to control cheating. This was particularly true for those teaching lecture-type courses where evaluations are generally based on traditional out-of-class assignments and exams versus the project-based evaluations utilized in the design studio and our studio/lab courses. Based on the data collected, the following should be noted:

Success Rates

Lecture Courses

- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **average success rate** was 77.0% +/-. The success rate for Spring 2020 was 67.0%+/-, a significant decrease below the average in a critical phase in the pandemic timeline.

- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **lowest success rate** was 67.0%+/- for the Spring 2020 Semester. The second lowest success rate for Spring 2021 was 71.0%+/-, a significant phase in the pandemic timeline.

In looking at the three ethnicities with the most significant enrollments in the Building Construction Technology Program, the following should be noted:

- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **average success rate** for Latinx students was 77.0%+/-. The average success rate for Asian students was 100.0%+/- and for White students the average success rate was 94.0%+/-.
- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **lowest success rate** for Latinx students was 57.0%+/- for the Spring 2020 semester. Again the success rate for Asian students was 100.0%+/- and for White students the lowest rate was 81.0%+/- for the Spring 2020 semester.

It is impossible to discern if there is cheating occurring in the courses surveyed, due to the significant decrease in the success rate for lecture-type courses utilizing evaluations based on traditional out-of-class assignments and exams.

(REQUIRED) What practices has your area/program implemented since the last program review cycle that you would like to improve/continue? Identify impacts on student success and equity.

The majority of the practices implemented were done to accommodate the shift to online/remote modality due to COVID-19 and not due to practices we deemed deficient by any means. There were two practices that we would like to continue and improve on in the Building Construction Technology Program. The following outlines those practices and impacts on student success and equity:

- While not new to instruction, *Canvas* use by the majority of the faculty increased due to the need to communicate in a timely manner with students and the increased use of online/remote modality due to COVID-19. During my tenure as Department Chair and subsequent conversations with faculty, the majority stated that it was difficult to maintain an acceptable level of communication with their students due to everyone's unfamiliarity with online/remote modality.

  Faculty with online instruction experience, a small percentage in the program, were utilizing *Canvas* at a much more significant level than those who had little or no experience with online instruction. At the onset of the pandemic, we quickly developed a number of workshops for the Architecture and Environmental Design Department (Building Construction Technology, Architecture, Interior Design) faculty so those with online instruction experience and more advanced in their use of *Canvas*, were able to assist those of us without.With additional assistance from a number of learning resources provided by the College, faculty now have a greater awareness of the ways in which *Canvas* can be utilized to improve both online and classroom instruction.We have observed continuous improvement in the overall organization and utilization of *Canvas* throughout the Building Construction Technology Program.

- While not new to instruction, *Zoom Video Communications Technology* use by all of the faculty increased immediately after instruction moved to the online format. During my tenure as Department Chair and subsequent conversations with faculty, the majority stated that it was difficult to maintain the significant standards they expected from their students and themselves due to everyone's unfamiliarity with *Zoom Video Communications Technology*.

  Based on current faculty observations, *Zoom* use appears to have improved, but is still an ongoing issue for some.Again, faculty with online instruction experience and more advanced in their use of *Zoom*, were able to assist those of us without that experience. With additional assistance from a number of learning resources provided by the College, faculty now have a greater awareness of the ways in which *Zoom* can be utilized to improve both online and classroom instruction and communication.In addition, we have observed continuous improvement in the overall organization

and utilization of *Zoom Video Communications* Technology throughout the Building Construction Technology Program.

- Student success was certainly impacted negatively, particularly during the first months of the pandemic as students and a majority of our faculty were contending with *Canvas* and *Zoom Video Communications Technology* and how best to quickly integrate both into the curriculum while maintaining course content integrity.

The general consensus amongst faculty, is issues surrounding the use of *Canvas* and *Zoom Video Communications Technology,* relate directly to the increase in withdrawals overall. Based on the data collected, the following should be noted:

Withdrawal Rates

Lecture Courses

- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **average withdrawal rate** was 14.0%+/-. The withdrawal rate for Spring 2020 was 19.0%+/- and for Fall 2020 was 18.0%+/- significant increases in withdrawals at a critical phase in the pandemic timeline.
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In looking at the three ethnicities with the most significant enrollments in the Building Construction Technology Program, the following should be noted:

- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **average withdrawal rate** for Latinx students was 45.0%+/-. The average withdrawal rate for Asian students was 3.3%+/- and for White students the average withdrawal rate was 44.0%+/-.
- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **highest withdrawal rate** for Latinx students was 29.0%+/- for the Fall 2020 semester. Again the highest withdrawal rate for Asian students was 4.3%+/- and for White students the highest withdrawal rate was 19.0%+/- for the Fall 2020 semester.

It appears there is validity to faculty concerns regarding student withdrawals during critical phases in the pandemic timeline.

- During my tenure as Department Chair and subsequent conversations with faculty, the majority stated that it was difficult to control cheating. This was particularly true for those teaching lecture-type courses where evaluations are generally based on traditional out-of-class assignments and exams versus the project-based evaluations utilized in the design studio and our studio/lab courses. Based on the data collected, the following should be noted:

Success Rates

Lecture Courses

- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **average success rate** was 77.0% +/-. The success rate for Spring 2020 was 67.0%+/-, a significant decrease below the average in a critical phase in the pandemic timeline.

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- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **average success rate** for Latinx students was 77.0%+/-. The average success rate for Asian students was 100.0%+/- and for White students the average success rate was 94.0%+/-.
- For all lecture courses offered from the period Fall 2018 to Spring 2021, the **lowest success rate** for Latinx students was 57.0%+/- for the Spring 2020 semester. Again the success rate for Asian students was 100.0%+/- and for White students the lowest rate was 81.0%+/- for the Spring 2020 semester.

It is impossible to discern how *Canvas* and *Zoom Video Communications Technology* practices implemented during the pandemic are attributable to the significant decrease in the success rate for lecture courses. I'm confident this is due to the outside classroom assignments and exams utilized in lecture courses.

(REQUIRED) What practices has your area/program implemented since the last program review cycle that you would like to change/discontinue? Identify impacts on student success and equity.

There were a number of practices implemented to accommodate the shift to an online/remote modality due to COVID-19 and not due to practices we deemed deficient by any means, that we would like to discontinue in the Building Construction Technology Program and why it is imperative that students are allowed back on Campus as soon as it is safe to do so:

- Building Construction Technology is an interdisciplinary field where collaboration is key. This is particularly true with respect to the overlap of building construction, architecture and interior design. Therefore, we expect our faculty to be familiar with all courses offered in the Building Construction Technology Program. Tenured and adjunct faculty teach lecture courses such as construction plan reading, construction practices, building codes, contractor's license law, etc. The breadth of faculty expertise allows for robust collaboration between faculty, not only those from the Building Construction Technology Program but the Architecture and Interior Design Program's as well.

Due to the restrictions initiated by the pandemic, face-to-face interaction by faculty has been unavailable. This is another example of the negative impact online/remote modality has had with respect to student success and equity for all of our students.

- An important aspect of the Architecture & Environmental Design Department (Building Construction Technology, Architecture, Interior Design) is physical model building and other methods of fabrication. To assist students, we developed a fully equipped model/fabrication shop at the Design Center. In addition, at the end of the 2019 Spring semester, we hired a full-time classified employee to oversee the shop. This increased shop availability, levels the playing field with respect to the quality of 3D model building and fabrication available to all students without incurring additional costs for expensive model building and fabrication tools.

This facility and has been unavailable to our students during the pandemic.In addition, the majority of our students do not have the space or appropriate equipment to develop their model building or fabrication skills.This is a key issue with respect to student success and equity for all of our students.

- An important aspect of our program is photographically recording the significant number of models, drawings, and other fabrication projects that students are required to produce. These digital photographs are utilized for student presentations. To assist students, we developed a fully equipped photography studio at the Design Center.

Due to the restrictions initiated by the pandemic, this facility has been unavailable to our students. This is another example of the negative impact online/remote modality has had with respect to student success and equity for all of our students.

(REQUIRED) What college-wide practices implemented since the last program review cycle have affected your area/program positively or negatively? Identify impacts on student success and equity.

The implementation of changes to the online/remote modality due to COVID-19, directly impacted student success and equity in the Building Construction Technology Program. As outlined in our responses to Question No. 2, the greatest positive impact has been a better understanding and use of *Canvas* and *Zoom Video Communications Technology*.

As outlined in our responses to Question No. 4, the greatest negative impact has been to lecture courses. In addition, the following should be noted:

- Our ongoing program intent is to strengthen the academic and career technical skills of students through integration of technical and non-technical components of our program. We reinforce the traditional aspects of our profession while training students and faculty in current and emerging building construction and related technologies. Traditional aspects include construction plan reading, code analysis, construction practices, and observational skills. Emerging technologies includes both new and updated versions of industry related software and the hardware that supports it. In our opinion, these academic and career technical skills are best when introduced through face-to-face instruction.

- Maintaining significant level of faculty-to-student interaction is paramount. In-person instruction would ensure continuity and course integration as well as increased contact hours with our students. Students lack the opportunity for comparable interaction with faculty in the remote instruction modality. Face-to-face instruction allows faculty to better understand the needs of each student. It also allows for that significant level of student to student interaction and group interaction which we have found is beneficial to student growth and directly reflects the way in which professional offices, construction sites, etc. function.

- The field of Building Construction Technology encompasses many possible career choices for students. Students study Building Construction Technology at both the theoretical and practical levels, technology and sustainability in the built environment, professional practice, digital and non-digital graphic communication, computer aided design, license law, codes, etc. To expose students to the numerous facets of the building construction profession, the program encourages students to explore the built environment through program sponsored field trips in Southern California. Field trips organized by faculty to significant buildings or construction sites provides opportunities for faculty, staff and students to interact outside of the classroom, supports opportunities for interdisciplinary collaboration between programs and supports opportunities for faculty, staff and students to grow in their cultural competency as they build a stronger sense of community.

  The Building Construction Technology Program has an ongoing commitment to educate students in significant designers, buildings, building typologies, construction practices and technologies through the classroom, first hand observation and on-site observation. The importance of creating opportunities for students to experience how architectural design and construction technology overlap one another in the field, cannot be overstated. First hand observation, is an essential component of a student's growth as a person involved in the building construction industry. First-hand observation skills go hand-in-hand with the myriad of other skills students are required to develop which are necessary in four-year and graduate construction technology programs and the building construction industry. Due to the restrictions initiated by the pandemic, field trips have been unavailable to our students.

With respect to specific courses, upon our full-time return to Campus, we would like to request the following with respect to online/remote modality instruction:

- Lecture courses will not be offered asynchronously except for those courses offered asynchronously prior to the pandemic or courses deemed appropriate by the tenured faculty and approved for asynchronously remote instruction.

- Additional lecture courses to be offered synchronously only except for those courses offered asynchronously prior to the pandemic or courses deemed appropriate by the tenured faculty and approved for asynchronously remote instruction.

Following is the Building Construction Technology Programs current course list by categories referenced in this document:

Lecture Courses

BLDC 055 Construction Plan Reading

BLDC 060 Construction Practices I

BLDC 061 Construction Practices II

BLDC 065 Building Inspection

BLDC 068 Electrical, Plumbing and Mechanical Codes

BLDC 070 Building Codes and Zoning

BLDC 075 Construction Management I

BLDC 080 Construction Project Management and Scheduling

BLDC 095 Building Contractor's License Law

Independent Study

BLDC 290 Independent Study