Bachelor of Applied Science Degree: Building Performance

The Bachelor of Applied Science in Building Performance degree addresses regional workforce needs by developing technicians proficient in Building Energy Modeling and compliance documentation for the California Energy and Green Building codes and Sustainable Building Certification Systems. The BASBP program is an extension of the curriculum and workforce skills currently taught by College of the Canyons' Associate of Science in Architectural Drafting and Technology degree, and prepares students for the state recognized Certified Energy Analysist exam, and employment in the A/E/C industry (Architecture/Engineering/Construction) as Building Energy Modelers, BIM/CAD technicians or Sustainable Building Certification System consultants. All courses designated as an upper division major requirement must be completed with a minimum grade of "C" (or "P") for each course in the major.

Degree Student Learning Outcomes:

Students will be able to:

1. Examine the effects of environmental factors and resource consumption on the performance of building projects using a variety of analytical and simulation methodologies.

2. Evaluate the suitability of resilient/sustainable building strategies relative to code compliance documentation and regulatory approvals for projects.

3. Analyze the use and effectiveness of passive and active environmental control systems and resource conservation strategies for building projects.

4. Utilize advanced Building Energy Modeling (BEM) and Building Information Modeling (BIM) techniques to facilitate Integrative Process methodologies for residential and nonresidential building projects to achieve code compliance, improved building performance, and sustainable rating system certification.

5. Apply vocational skills and competencies during required Project Based Learning internship to demonstrate technician employment readiness for the A/E/C industry.

Program Requirements:

Major Units Required: 91 - 93

		Units:
ARCHT-110	Architectural Drafting	3.0
ARCHT-140	Materials and Methods of Construction	3.0
ARCHT-160	2-D CAD for Architecture and Interior Design	3.0
ARCHT-180	Codes and Zoning Regulations	3.0
ARCHT-200A	Sustainable Development and Environmental Design	3.0
ARCHT-240	Architectural Design Portfolio	3.0
ARCHT-250	Introduction to Sustainable Building Certification Systems	3.0
ARCHT-260	3-D Modeling and Rendering	3.0
ARCHT-270	Introduction To Building Information Modeling (BIM)	3.0
ARCHT-290	Advanced Building Information Modeling (BIM)	3.0
ARCHT-317	Regulatory Compliance Documentation – Residential	3.0
ARCHT-320	Climate Appropriate Biodiverse Landscaping and Irrigation	3.0

ARCHT-350	Environmental Control Systems for Net-Zero Buildings	3.0
ARCHT-370	Building Energy Modeling	3.0
ARCHT-417	Advanced Regulatory Compliance Documentation – Non-Residential	3.0
ARCHT-450	Advanced Sustainable Building Certification Systems	3.0
ARCHT-490	Integrative Process for Sustainable Building	3.0
CONST-101	Introduction to Construction and Construction Engineering	3.0
CONST-102	Construction Management Principles	3.0
CONST-103	Blue Print Reading for Construction	3.0

Plus twelve units from the following:

ARCHT-084	Digital Illustration for Architecture and Interior Design	3.0
ARCHT-120	Design I - Elements of Architectural Design	3.0
ARCHT-190	Design II - Space Planning	3.0
ARCHT-200B	Design III - Environmental Design Lab	3.0
ARCHT-220	Advanced 2-D CAD for Architecture and Interior Design	3.0
ARCHT-280	Design IV – Advanced Design	3.0
CONST-105	Construction Estimating Principles	3.0
CONST-106	Survey of Construction Contracts and Laws	3.0
ID-101A	Introduction to Interior Design	3.0
ID-101B	Introduction to Interior Design Lab	3.0
ID-102	Applied Color for Designers	3.0
ID-104	Rapid Visualization	3.0
ID-113	Interior Design Materials and Specifications	3.0
ID-117	Lighting Design	3.0

Plus one course from the following:

MATH-100	Liberal Arts Mathematics	3.0
MATH-102	Trigonometry	4.0
MATH-102X	Trigonometry with Support	5.0

Plus one course from the following

PHYSIC-101	Introduction to Physics	4.0
PHYSIC-110	General Physics I	4.0

Required Upper Division General Education Courses

BIOSCI-330	Environmental Biology in a Changing World	3.0
HIST-450	World Environmental History	3.0
PHILOS-450	Environmental Ethics in a Changing World	3.0

Plus a total of 3 units of upper division work experience. This course can be taken multiple times and units vary based on hours completed in the internship. Students must work at the internship site a minimum of 54 hours per unit in order to receive credit.

WE-486ARCH	Work Experience Education Architecture	1.0 – 4.0