Virtual Design and Construction Institute

dba cadteacher

Catalog of Courses

1/1/2012 - 12/31/2012

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Mission & Objectives

The mission of Virtual Design and Construction Institute is to offer quality campus based and online certificate programs, to motivated adults who are able to work independently and in small groups and who may benefit from intensive instruction in various CAD, BIM and other Virtual Design software programs.

The Virtual Design and Construction Institute will provide students with an up-to-date curriculum which is both intellectually challenging, practical and appropriate for the professional and trades environments.

Part of our mission is to convey to students the importance of continuing education. We endeavor to sustain our course offerings by developing an operational environment that is professionally managed, competently supervised, continually evaluated and appropriately modified thereby providing course curriculum material that are kept current. Virtual Design and Construction Institute provides onsite and online AutoCAD, Revit, Autodesk Inventor, AutoCAD Civil 3D, Navisworks, 3ds Max, SketchUp and other Construction Industry-targeted software training.

In all programs and services, the Virtual Design and Construction Institute respects the value of diversity among students and faculty. Therefore, we encourage the participation of individuals from all nationalities, races, and colors.

Virtual Design and Construction Institute - Purpose Statement

The special character of this institution is reflected in its commitment to the study of Virtual Design and Construction (VDC) software, including CAD/BIM/Digital Prototyping and Visualization software programs. The purpose of the institution is to help students acquire competency in the use of Computer Aided Design, Building Information Modeling and other Virtual Design and Construction software.

Virtual Design and Construction Institute – Objectives

All programs at Virtual Design and Construction Institute have a set of stated objectives which continue to evolve as the sophistication of the design software evolves. Currently, the institution's objectives are to:

- Provide students with training in the use of architectural, structural, mechanical/electrical/plumbing and civil design software.
- Provide students with a professional atmosphere conducive to learning.
- Assure programs are delivered by highly qualified and experience instructors.
- Assure students obtain the skills and knowledge needed to improve their productivity and enhance their credibility in the workplace.

Student Records and Transcripts

The policy of this institution requires that student records for all students are kept for five years. All records are maintained in compliance with sections 94803 and 94877 of the California Education Code – Referenced Sections 94885, 94900 and 94900.5 of the Education Code. The student records will be maintained in the State of California. In addition to permanently retaining a transcript as required by section 94900(b) of the Code, the institution shall maintain, for a period of five years, the

pertinent student records described in Section 71920 from the student's date of completion or withdrawal. The institution shall maintain records relating to federal financial aid programs as provided by federal law. A record is considered current or three years following a student's completion or withdrawal. A record may be stored on microfilm, microfiche computer disk or any other method of record storage only if all of the following apply: (a) the record may be stored without loss of information or legibility for the period within which the record is required to maintained by the Education Code; (b) for a record which is current, the institution maintains functioning devices that can be immediately reproduce exact, legible printed copies of stored records. The devices shall be maintained in a reasonably close proximity to the stored records at the institution's primary administrative location in California. For a record that is non longer current, the institution shall be able to reproduce exact, legible printed copies within two business days. VDCI will have personnel scheduled to be present at all times during normal business hours who know how to operate the devices and can explain the operation of the devices to any person authorized by the Act to inspect and copy records. Any person authorized by the Act to inspect and copy records shall be given immediate access to the document reproduction devices for the purpose of inspecting and copying stored records and shall, upon request, reimburse the institution for thee reasonable cost of using the institution's equipment and material to make copies of a rate not to exceed ten cents per page. VDCI shall maintain a second set of all academic and financial records required by the Act at a different location unless the original records, including records stored pursuant to the aforementioned paragraph are maintained in a manner secure from damage or loss. An acceptable manner of storage would include fire-resistant cabinets.

All records that the institution is required to maintain by the Act or this chapter shall be made immediately available by the institution for inspection and copying during normal business hours by the Bureau and any entity authorized to conduct investigations.

If VDCI closes, the institution and its owners are jointly and severally responsible to arrange at their expense for the storage and safekeeping in California of all records required to be maintained buy the Act and this chapter for as long as those records must be maintained. The repository of the records shall make these records immediately available for inspection and copying, without charge except as allowed under the above-listed paragraph during normal business hours by any entity authorized by law to inspect and copy records.

Privacy Act

It is this institution's intent to carefully follow the rules applicable under the Family Education Rights and Privacy Act. It is our intent to protect the privacy of a student's financial, academic and other school records. We will not release such information to any individual without having first received the student's written request to do so, or unless otherwise required by law.

Tuition and Fees (U.S. Dollars)

All fees are subject to change from time to time, without notice. Courses at the Virtual Design and Construction Institute can be taken either as an entire program or individually. The following tuition and fees pertain:

Certificate Programs

	Total Hours	Tuition	Registration (Non Refundable)	Books & Materials (1)	STRF Tax	Total
Architectural CAD/BIM Certificate Program	244 Hrs	$4,750.00	$50.00	$ 280.00	$ 11.88	$ 5,091.85
Project Management Professional BIM Certificate Program	154 Hrs	$3,750.00	$50.00	$ 280.00	$ 9.38	$ 4,089.38
Architectural CAD Certificate Program	154 Hrs	$3,750.00	$50.00	$ 280.00	$ 9.38	$ 4,089.38
Architectural BIM Certificate Program	154 Hrs	$3,750.00	$50.00	$ 280.00	$ 9.38	$ 4,089.38
Digital Arts / Visualization Certificate Program	154 Hrs	$3,750.00	$50.00	$ 180.00	$ 9.38	$ 3,989.38
3D CAD Certificate Program	154 Hrs	$3,750.00	$50.00	$ 120.00	$ 9.38	$ 3,929.38
Civil 3D Certificate Program	154 Hrs	$3,750.00	$50.00	$ 180.00	$ 9.38	$ 3,989.38
Green Technology Certificate Program	154 Hrs	$3,750.00	$50.00	$ 250.00	$ 9.38	$ 4,059.38
Industrial Design Technology Certificate Program	154 Hrs	$3,750.00	$50.00	$ 140.00	$ 9.38	$ 3,969.38
MEP (Mechanical, Electrical, Plumbing) BIM Certificate Program	154 Hrs	$3,750.00	$50.00	$ 215.00	$ 9.38	$ 4,044.38
Structural BIM Certificate Program	154 Hrs	$3,750.00	$50.00	$ 215.00	$ 9.38	$ 4,044.38

Training Bundle Courses	Total Hours	Tuition	Registration (Non Refundable)	Books & Materials (1)	STRF Tax	Total

Training Bundle Pricing is based on enrollment in multiple courses, exclusive of the Certificate Programs

3 Courses *	10.0	% Cost Savings
4 Courses *	12.5	% Cost Savings
5 Courses (or more) *	15.0	% Cost Savings

* Based on the number of 16/24 hour courses

Software-Specific Bundles

CAD Bundles

CAD Bundle 1 – AutoCAD Fundamentals			80	$ 1,485.00	$ 0.00	$ 170.00	$ 3.72	$ 1,658.72
CAD 101	CAD 201	CAD 301						
CAD 401	PFC 101							
CAD Bundle 2 – AutoCAD Complete			204	$ 3,440.50	$50.00	$ 170.00	$ 8.60	$ 3,669.10
CAD 101	CAD 201	CAD 301						
CAD 302	CAD 303	CAD 304						
CAD 305	CAD 306	CAD 401						
PFC 101	PFC 501							
Includes the CAD Technology Certificate								
CAD Bundle 3 – AutoCAD Construction Docs			156	$ 2,650.00	$50.00	$ 170.00	$ 6.63	$ 2,876.63
CAD 101	CAD 201	CAD 301						
CAD 302	CAD 303	CAD 304						
CAD 401	PFC 101	PFC 501						
Includes the CAD Technology Certificate								
CAD Bundle 4 – AutoCAD 3D Modeling			100	$ 1,650.00	$ 0.00	$ 170.00	$ 4.13	$ 1,824.13
CAD 101	CAD 201	CAD 305						
CAD 306	CAD 401							

BIM Bundles

BIM Bundle 1 – Revit Fundamentals			76	$ 1,275.00	$ 0.00	$ 196.00	$ 3.19	$ 1,474.19
BIM 101	BIM 201	BIM 301						
BIM 401								

BIM Bundle 2 – Revit Complete			244	$ 3,995.00	$50.00	$ 498.00	$ 9.99	$ 4,552.99
BIM 101	BIM 201	BIM 301						
BIM 302	BIM 303	BIM 304						
BIM 321	BIM 322	BIM 341						
BIM 361	PFC 401	PFC 501						
Includes the BIM Technology Certificate								
BIM Bundle 3 – Revit Construction Docs			156	$ 2,675.00	$50.00	$ 296.00	$ 6.69	$ 3,027.69
BIM 101	BIM 201	BIM 301						
BIM 302	BIM 303	BIM 304						
BIM 401	PFC 102	PFC 501						
Includes the BIM Technology Certificate								
BIM Bundle 4 – Revit Project Management			192	$ 3,175.00	$50.00	$ 398.00	$ 7.94	$ 3,630.94
BIM 101	BIM 201	BIM 301						
BIM 302	BIM 303	BIM 304						
BIM 321	BIM 361	BIM 401						
PFC 501								
Includes the BIM Project Management Certificate								
BIM Bundle 5 – Revit Sustainable Design			108	$ 2,805.00	$ 0.00	$ 380.00	$ 7.01	$ 3,192.01
BIM 101	BIM 201	BIM 301						
GTC 101	GTC 102	GTC 201						
GTC 202	BIM 401							

Civil 3D Bundles

Civil 3D Bundle 1 – Civil 3D Fundamentals			72	$ 1,150.00	$ 0.00	$ 90.00	$ 2.88	$ 1,242.88
Civ3D 301	Civ3D 302	Civ3D 303						
Civil 3D Bundle 1 – Civil 3D Complete			124	$ 2,040.00	$ 0.00	$ 280.00	$ 5.10	$ 2,325.10
CAD 101	CAD 102	Civ3D 301						
Civ3D 302	Civ3D 303	CAD 401						

Visualization Bundles

Visualization Bundle 1 – Fundamentals			72	$ 1,150.00	$ 0.00	$ 90.00	$ 2.86	$ 1,242.86
DAC 201	DAC 221	DAC 303						
Visualization Bundle 2 – Complete			120	$ 2,250.00	$ 0.00	$ 90.00	$ 5.62	$ 2,345.62
DAC 201	DAC 202	DAC 221						
DAC 222	DAC 303							

Sustainable Design Bundles

Sustainable Design Bundle 1 – Complete GTC 102 GTC 103 GTC 201 GTC 202		48	$ 1,900.00	$ 0.00	$ 180.00	$ 4.75	$ 2,084.75

Professional-Specific Bundles

Professional Bundle 1 – CAD/BIM/VIZ Complete			488	$ 8,450.00	$75.00	$ 568.00	$ 21.13	$ 9,114.13
CAD 101	CAD 201	CAD 301						
CAD 302	CAD 303	CAD 304						
CAD 401								
BIM 101	BIM 201	BIM 301						
BIM 302	BIM 303	BIM 304						
BIM 321	BIM 322	BIM 341						
BIM 361	BIM 401	PFC 501						
DAC 201	DAC 202	DAC 221						
DAC 222	DAC 303							

Includes the CAD Technology Certificate
Includes the BIM Technology Certificate
Includes the Project Management Professional BIM Technology Certificate

Professional Bundle 2 – CAD/BIM Complete			388	$ 6,500.00	$75.00	$ 568.00	$ 16.25	$ 7,159.25
CAD 101	CAD 201	CAD 301						
CAD 302	CAD 303	CAD 304						
CAD 401								
BIM 101	BIM 201	BIM 301						
BIM 302	BIM 303	BIM 304						
BIM 321	BIM 322	BIM 341						
BIM 361	BIM 401	PFC 501						

Includes the CAD Technology Certificate
Includes the BIM Technology Certificate
Includes the Project Management Professional BIM Technology Certificate

Professional Bundle 3 – CAD/BIM/VIZ			336	$ 5,750.00	$75.00	$ 568.00	$ 14.38	$ 6,407.38
CAD 101	CAD 201	CAD 301						
CAD 302	CAD 401							
BIM 101	BIM 201	BIM 301						
BIM 302	BIM 303	BIM 304						
BIM 321	BIM 361	BIM 401						
DAC 201	DAC 221	PFC 501						

Includes the Project Management Professional BIM Technology Certificate
Includes the BIM Technology Certificate

Professional Bundle 4 – CAD/BIM/GTC			340	$ 5,850.00	$75.00	$ 748.00	$ 14.63	$ 6,686.63
CAD 101	CAD 201	CAD 301						
CAD 302	CAD 401							
BIM 101	BIM 201	BIM 301						
BIM 302	BIM 303	BIM 304						
BIM 321	BIM 361	BIM 401						
GTC 102	GTC 102	GTC 201						
GTC 202	PFC 501							

Includes the Project Management Professional BIM Technology Certificate
Includes the BIM Technology Certificate
Includes the Sustainable Design Professional Certificate

Professional Bundle 5 – CAD/BIM			192	$ 3,850.00	$75.00	$ 266.00	$ 9.62	$ 4,200.62
CAD 101	CAD 201	CAD 301						
CAD 304	CAD 401	BIM 101						
BIM 201	BIM 301	BIM 321						
BIM 361	BIM 401	PFC 501						

Includes the CAD Technology Certificate
Includes the BIM Technology Certificate

Professional Bundle 6 – CAD/BIM Project Mgmt			188	$ 3,550.00	$75.00	$ 266.00	$ 8.88	$ 3,899.88
CAD 101	CAD 201	DAC 201						
BIM 101	BIM 201	BIM 301						
BIM 321	BIM 361	BIM 401						
PFC 501								

Includes the Project Management Professional BIM Technology Certificate
Includes the BIM Technology Certificate

Professional Bundle 6 – BIM Project Mgmt			148	$ 2,700.00	$50.00	$ 398.00	$ 6.75	$ 3,154.75
BIM 101	BIM 201	BIM 301						
BIM 302	BIM 321	BIM 361						
BIM 401	PFC 102	PFC 501						

Includes the Project Management Professional BIM Technology Certificate

Customized Bundles

			Approx. Expenses			
Custom Bundle – Two Courses + Cert Review Select any two 16- or 24-hour courses Include one Cert Review Prep Course Save 10%	36 -52	$ 945.00	$ 0.00	$ 200.00	$ 2.36	$ 1,147.36
Custom Bundle – Three Courses Select any three 16- or 24-hour courses Save 10%	56 - 72	$ 1,180.00	$ 0.00	$ 100.00	$ 2.95	$ 1,282.95
Custom Bundle – Four Courses Select any four 16- or 24-hour courses Save 12.5%	80 - 96	$ 1,550.00	$ 0.00	$ 150.00	$ 3.86	$ 1,703.86
Custom Bundle – Five or more Courses Select any five or more 16- or 24-hour courses Save 15%	104 - 120	$ 1,910.00	$ 0.00	$ 200.00	$ 4.78	$ 2,114.78

Individual Courses	Tuition	Registration (Non Refundable)	Books & Materials (1)	STRF Tax	Total
24 Hour Courses	$ 450.00	$ 0.00	$ 100.00	$ 1.13	$ 551.13
16 Hour Courses	$ 450.00	$ 0.00	$ 85.00	$ 1.13	$ 536.13
12 Hour Courses	$ 350.00	$ 0.00	$ 60.00	$ 0.88	$ 410.88
4 Hour Courses	$ 150.00	$ 0.00	$ 100.00	$ 0.38	$ 250.38

Note (1) – Required Text Books and Materials, including Autodesk Certification Exams. Citing average textbook costs – Option -- Pre-configured for CAD and BIM – Lenovo /Thinkpad laptop computer. Supports BIM, CAD and Visualization Certificate Programs. Includes installation of 13-month licenses to Autodesk software with the CAD and BIM software configured for the user. Computer is business-oriented. Intel i7 Core processor, 64-bit OS 8GB RAM with 2GB on-board NVidia video-processor memory. Windows 7 or equal. $1,875.00

STRF Tax is $2.50 per $1000 of Tuition

Note: No grades or documents will be released if there is an outstanding balance. The institution may refuse any type of service to students who have an outstanding balance. The institution may also refuse re-admission to a student who has left the institution with an outstanding balance. All fees are subject to change.

STRF Disclosure

§ 76215. Student Tuition Recovery Fund Disclosures.
You must pay the state-imposed assessment for the Student Tuition Recovery Fund (STRF) if all of the following applies to you:
1. You are a student, who is a California resident, or are enrolled in a residency program and prepay all or part of your tuition either by cash, guaranteed student loans, or personal loans, and
2. Your total charges are not paid by any third-party payer such as an employer, government program or other payer unless you have a separate agreement to repay the third party.

You are not eligible for protection from the STRF and you are not required to pay the STRF assessment, if either of the following applies to you:
1. You are not a California resident, or are not enrolled in a residency program, or
2. Your total charges are paid by a third party, such as an employer, government program or other

payer, and you have no separate agreement to repay the third party."

"The State of California created the Student Tuition Recovery Fund (STRF) to relieve or mitigate economic losses suffered by students who are California residents, or are enrolled in a residency program attending certain schools regulated by the Bureau for Private Postsecondary and Vocational Education.

You may be eligible for STRF if you are a California resident or are enrolled in a residency program, prepaid tuition, paid the STRF assessment, and suffered an economic loss as a result of any of the following:
1. The school closed before the course of instruction was completed.
2. The school's failure to pay refunds or charges on behalf of a student to a third party for license fees or any other purpose, or to provide equipment or materials for which a charge was collected within 180 days before the closure of the school.
3. The school's failure to pay or reimburse loan proceeds under a federally guaranteed student loan program as required by law or to pay or reimburse proceeds received by the school prior to closure in excess of tuition and other cost.
4. There was a material failure to comply with the Act or this Division within thirty days before the school closed or, if the material failure began earlier than 30 days prior to closure, the period of decline determined by the Bureau.
5. An inability after diligent efforts to prosecute, prove and collect on a judgment against the institution for a violation of the Act. Sections 94803, 94877 and 94923, Education Code. Reference: Section 94923, Education Code.

Student Conduct

Students are expected to behave professionally and respectfully at all times. Students are subject to dismissal for breaches of security, for any inappropriate or unethical conduct or for any act of academic dishonesty.

Library Resources

No library is needed to meet the instructional needs of the students. The programs offered are all computer based and require the development of skills in the acquisition of knowledge. Library materials would not be compatible with these types of programs for professional designers, architects, engineers and others seeking job transition or professional advancement through the acquisition of computer design skills.

90 day to 13 month Autodesk student software licenses (depending upon the software) are granted free of charge to Virtual Design and Construction Institute students and is a valuable resource.

School Location

cadteacher / Virtual Design and Construction Institute
3904 Groton Street
San Diego, California 92110

Phone: 619-758-9300

Website: www.vdci.com

Effective Dates of this Catalog

January 1st, 2012 to December 31st, 2012

Virtual Design and Construction Institute is a private institution and is approved to operate by the Bureau for Private Postsecondary Education. (BPPE)

(A) **Questions** Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at (Physical Address): 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, (Mailing Address): P.O. Box 980818, West Sacramento, CA 95798-0818, www.bppe.ca.gov, (916) 431-6959 or toll free (888) 370-7589 or Fax (916) 263-1897

(B) As a prospective student, you are encouraged to review this catalog prior to signing an enrollment agreement. You are also encouraged to review the School Performance Fact Sheet, which must be provided to you prior to signing an enrollment agreement.

(C) A student, or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling toll free (888) 370-7589 or (916) 431-6959 by completing a complaint form, which can be obtained on the bureau's Internet Web site www.bppe.ca.gov.

Policies and Procedures Regarding Financial Aid

The school does not provide either State or Federal financial aid.

If a student obtains a loan to pay for an educational program, the student will have the responsibility to repay the full amount of the loan plus interest, less the amount of any refund, and that, if the student has received federal student financial aid funds, the student is entitled to a refund of the moneys not paid from federal student financial aid program funds.

Student's Right to Cancel

The student shall have the right to cancel the enrollment agreement and receive a refund of charges paid through attendance at the first class session, or the seventh day after enrollment, whichever is later. Cancellation is effective on the date written notice of cancellation is sent. The institution shall make the refund as per the calculation consistent with the California Code of Regulations. If the institution delivered the first lesson and materials before an effective cancellation notice was received, the institution shall make a refund within 45 days after the student's return of the materials.

If the student has received federal student financial aid funds, the student is entitled to a refund of moneys not paid from federal student financial aid program funds.

A notice of cancellation shall be in writing, and a withdrawal may be effectuated by the student's written notice or by the student's conduct, including, but not necessarily limited to, a student's lack of attendance. The institution shall refund 100 percent of the amount paid for institutional charges, less a reasonable deposit or application fee not to exceed two hundred fifty dollars ($250), if notice of cancellation is made through attendance at the first class session, or the seventh class day (our courses are no more than six classes long) after enrollment, whichever is later.

The institution shall issue a refund for unearned institutional charges if the student cancels an enrollment agreement or withdraws during a period of attendance. The refund policy for students who have completed 60 percent or less of the period of attendance shall be a pro rata refund. The institution shall pay or credit refunds within 45 days of a student's cancellation or withdrawal.

This right to cancel is consistent with the requirements of Article 13 (commending with section CEC 94919) of the California Education Code.

Business Operations

The Virtual Design and Construction Institute has never had a pending petition in bankruptcy, is not operating as a debtor in passion, has not filed a petition within the preceding five years and has never had a petition in bankruptcy filed against it within the preceding five years that resulted in reorganization under Chapter 11 of the United States Bankruptcy Court.

Refund Policy

The student shall have the right to cancel the enrollment agreement and receive a refund of charges paid through attendance at the first class session, or the seventh day after enrollment, whichever is later. The amount owed to the student equals the institutional charge for the instruction divided by the total number of clock hours in the period of attendance multiplied by the number of clock hours the student has not attended prior to withdrawal. No refunds are due once the student has received 60% of the clock hours of instruction in any given period of attendance.

For purposes of determining a refund, a student shall be considered to have withdrawn from an educational program when he or she withdraws or is deemed withdrawn in accordance with the withdrawal policy stated in this institution's catalog.

If an institution has collected money from a student for transmittal on the student's behalf to a third party for a bond, library usage, or fees for a license, application, or examination and the institution has not paid the money to the third party at the time of the student's withdrawal or cancellation, the institution shall refund the money to the student within 45 days of the student's withdrawal or cancellation.

This institution shall refund any credit balance on the student's account within 45 days after the date of the student's completion of, or withdrawal from, the educational program in which the student was enrolled.

Any questions a student may have regarding this enrollment agreement that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at P.O. Box 980818, West Sacrament, CA 95798-0818. www.bppe.ca.gov (phone) 916-574-7720 (fax) 916-574-8646.

A student or any member of the public may file a complaint about this institution with the Bureau for Private Postsecondary Education by calling 800-888-370-7589 or by completing a complaint form, which can be obtained on the bureau's Internet Web site www.bppe.ca.gov.

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION

"The transferability of credits you earn at the Virtual Design and Construction Institute is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the certificate you earn in one of our technology software application programs is also at the complete discretion of the institution to which you may seek to transfer.

If the credits that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Virtual Design and Construction Institute to determine if your credits will transfer."

This institution has not entered into an articulation or transfer agreement with any other college or university.

Student Grievance Procedures

This institution is dedicated to fair dealing and professional conduct. Should any student have a complaint, the student is asked to discuss the matter directly with an instructor or administrator. That instructor or administrator will engage in an informal process endeavoring to settle the dispute in good faith. That informal process will involve three steps: 1: an effort to define the problem, 2: an effort to identify acceptable options for resolution, and 3: an attempt to resolve the conflict through the application of one or more of those options for resolution. The student may thereafter choose to file a written complaint directly with the institution's Chief Academic Officer who will work to resolve the matter. The Chief Academic Officer is the individual designated to resolve student complaints. That individual will investigate all formal (written) complaints, endeavor to resolve all such complaints, and record an entry into the institution's official log. The formal process will involve:

(1) The student's submission of a written description of the specific allegations and the desired remedy, accompanied by any available documentary items. The filing deadline is 60 days after the beginning date of the term following that in which the dispute(s) occurred or are alleged to have occurred.
(2) The student may terminate the formal process should, in the interim, the informal process produce a satisfactory resolution.
(3) The Chief Academic Officer will notify all parties involved of the receipt and nature of the grievance. If a policy is being grieved, the administrator responsible for the policy will be notified.
(4) A timeline for resolution will be delivered to the principles by the Chief Academic Officer.
(5) Interested parties will communicate with the CAO in order to make recommendations to resolve the grievance.
(6) The party responsible for implementing the selected method of resolution will notify the principals of the decision reached. In the event that a student does not agree to the resolution proposed, the student retains the right to file a complaint with the Bureau for Private Postsecondary Education, Sacramento, CA.

Leaves of Absence

Should circumstances be such that a leave of absence is to be requested, a student must submit an application for a leave of absence. At the discretion of the Chief Academic Officer, a leave may be granted for a reasonable time, as warranted by the circumstances. If a student repeatedly resorts to the use of a leave of absence, and if such applications show a pattern of delays, or should the issuance of a leave of absence be such that it would significantly interfere with the planned completion of a program of study, the Chief Academic Officer may, in his/her sole discretion, dismiss a student from the program and issue the appropriate refunds as may be required.

Mode of Instruction

This is a dual-mode institution. All courses offered by the Virtual Design and Construction Institute are available by direct instruction (classroom) or by indirect instruction (online). Students may arrange to take some components by one mode of instruction and other course components by the other mode of instruction.

Transcripts

Each student's file will contain student's records, including a transcript of grades earned. The first copy of the official transcript is provided at no charge. Subsequent copies are available upon advance payment of the transcript fee of $25.00 for two copies. Transcripts will only be released to the student

upon receipt of a written request bearing the student's live signature. No transcript will be issued until all tuition and other fees due the institution are paid current.

Academic Probation

The Chief Academic Officer may place a student on academic probation if the student is not making satisfactory academic progress as per this institution's published policy. The student's grade point average will be monitored at the end of each enrollment period when the grades are posted. Should the GPA fall below that required for completion, a student may be placed on academic probation. This will result in a formal advisory, which will be sent to the student, indicating the reason for the probation. Failure to maintain satisfactory academic progress may result in dismissal from the program. The Chief Academic Officer will offer assistance in locating a suitable tutor, should such service be requested by the student.

Attendance Policy – All Programs

This institution requires that a student attend a minimum of 90% of scheduled class, laboratory and other such assigned hours.

Admissions Policy

1) The student must pay all registration and tuition fees and other such fees as may be applicable.
2) The student must meet any prerequisites for the program in which the individual seeks admission. Students must submit certified documents to show proof of the credits earned at other institutions, as official transcripts will be required.

Student Conduct

Students are expected to behave professionally and respectfully at all times. Students are subject to dismissal for any inappropriate or unethical conduct or for any act of academic dishonesty. Students are expected to dress and act accordingly while attending this institution. At the discretion of the school administration a student may be dismissed from school for reasons including, but not limited to:

- Coming to class in an intoxicated or drugged state.
- Possession of drugs or alcohol on campus.
- Possession of a weapon on campus.
- Behavior creating a safety hazard to other person(s).
- Disobedient or disrespectful behavior to other students, an administrator or instructor.
- Visiting inappropriate web sites
- Stealing or damaging the property of another.

Any students found to have engaged in such conduct will be asked to leave the premises immediately. Disciplinary action will be determined by the Chief Executive Officer of this institution and such determination will be made within 10 days after meeting with both the chair of the department in which the student is enrolled and the student in question.

Academic Probation

The Chief Academic Officer may place a student on academic probation if the student is not making satisfactory academic progress as per this institution's published policy. The student's grade point

average will be monitored at the end of each enrollment period when the grades are posted. Should the GPA fall below that required for graduation, a student may be placed on academic probation. This will result in a formal advisory, which will be sent to the student, indicating the reason for the probation. Failure to maintain satisfactory academic progress may result in dismissal from the program.

Grades and Standards for Student Achievement - Satisfactory Progress

Grades are awarded on a traditional A+,A, A-, B+, B, B- ... F system. The minimum passing grade is a D-. The minimum allowable grade point average to maintain satisfactory progress is a C, or 2.0.

In calculating a student's grade point average, the following policy applies:

Letter Grade	Percent	Grade Points	Letter Grade	Percent	Grade Points
A+	100	4.00	C	80	2.00
A	97	3.67	C-	76	1.67
A-	95	3.50	D+	75	1.33
B+	94	3.33	D	72	1.00
B	90	3.00	D-	69	0.67
B-	86	2.67	F	< 69	0.00
C+	85	2.33			

If the student has not completed the coursework and earned a grade at the end of the course, the instructor may issue one of the following grades.

I Incomplete If the course has not been completed, the instructor may grant an I on a two-month extension of the term, at no additional tuition cost, when the student is making satisfactory progress and the instructor believes that an extension of time will permit satisfactory completion. At the end of this period, a final grade must be recorded.

W Withdraw The student may withdraw from any course before the end of the term. At the end of the term, the instructor may withdraw the student from the course and issue a W when the instructor believes the student's progress is insufficient to warrant an extension. A student who withdraws or is administratively withdrawn must retake the course and is responsible for a new tuition payment for that course of study.

Student Housing

This institution does not operate dormitories. There are hotel options available in the immediate neighborhood which range in the sub-$100.00 per night range (depending on the season). The staff at VDCI can assist students by recommending/locating nearby hotel or other types of accommodations.

Distance Education Evaluation

For our online, distance education students, no more than three business days will elapse between the institution’s receipt of student lessons, projects or dissertations and the institution’s mailing and/or emailing its response and/or evaluation.

Distance Educational Programs - Specific Provisions for Instruction Not in Real Time.

As a dual-mode institution, VDCI offers a distance educational program option where the instruction is not offered in real time. For students attending VDCI as asynchronous students, VDCI shall transmit the first lesson and any materials to any student within seven days after the institution accepts the student for admission.

The student shall have the right to cancel the agreement and receive a full refund before the first lesson and materials are received. Cancellation is effective on the date written notice of cancellation is sent. The institution shall make the refund pursuant to the following, which complies with CCR Section 71750:

(a) VDCI shall make refunds that are no less than the refunds required under the Act and this Division.

(b) VDCI may not enforce any refund policy that is not specified in the catalog as required pursuant to section 94909(a)(8)(B) of the Code, and must refund all institutional charges upon a student's withdrawal. Withdrawal policy procedures pursuant to section 94909(a)((8)(B) of the Code shall include, at a minimum: the acceptable methods of delivery of a notice to withdraw; whether withdrawal can be accomplished by conduct, and if so, how; the position or positions to whom the notice to withdraw must be delivered; and the date that the notice to withdraw is considered effective, which shall be no later than the date received by the institution.

(c) A pro rata refund pursuant to section 94919(c) or 94920(d) or 94927 of the Code shall be no less than the total amount owed by the student for the portion of the educational program provided subtracted from the amount paid by the student, calculated as follows:

(1) The amount owed equals the daily charge for the program (total institutional charge, divided by the number of days or hours in the program), multiplied by the number of days student attended, or was scheduled to attend, prior to withdrawal.

(2) Except as provided for in subdivision (a)(3) of this section, all amounts paid by the student in excess of what is owed as calculated in subdivision (a)(1) shall be refunded.

(3) Except as provided herein, all amounts that the student has paid shall be subject to refund unless the enrollment agreement and the refund policy outlined in the catalog specify amounts paid for an application fee or deposit not more than $250.00, books, supplies, or equipment, and specify whether and under what circumstances those amounts are non-refundable. Except when an institution provides a 100% refund pursuant to section 94919(d) or section 94920(b) of the Code, any assessment paid pursuant to section 94923 of the Code is non-refundable.

(4) For purposes of determining a refund under the Act and this section, a student shall be considered to have withdrawn from an educational program when he or she

withdraws or is deemed withdrawn in accordance with the withdrawal policy stated in its catalog.

(d) If VDCI has collected money from a student for transmittal on the student's behalf to a third party for a bond, library usage, or fees for a license, application, or examination and the institution has not paid the money to the third party at the time of the student's withdrawal or cancellation, the institution shall refund the money to the student within 45 days of the student's withdrawal or cancellation.

If VDCI has sent the first lesson and materials before an effective cancellation notice was received, VDCI shall make a refund within 45 days after the student's return of the materials.

VDCI shall transmit all of the lessons and other materials to the student if the student: (a) has fully paid for the educational program; and (b) after having received the first lesson and initial materials, requests in writing that all of the material be sent.

If VDCI transmits the balance of the material as the student requests, VDCI shall remain obligated to provide the other educational services it agreed to provide, such as responses to student inquiries, student and faculty interaction, and evaluation and comment on lessons submitted by the student, but shall not be obligated to pay any refund after all of the lessons and material are transmitted.

Administration

Name
Chief Executive Officer, Chief Academic Officer
Al Whitley, MBA, AIA

Name
Chief Operations Officer
Amanda Wurangian

Name
Chief Financial Officer
J. T. Struck

Faculty

Name of Instructor	Specific Courses To Be Taught	College or Work Qualifications
Al Whitley, MBA, AIA	AutoCAD, Blueprint Reading & Detailing	BBA College of William and Mary MBA San Diego State University Registered Architect, California C25526 Autodesk Certification AutoCAD and Revit
Trevor Cornell	Navisworks, AutoCAD, Revit, Blueprint Reading, Ecotect	B Arch Woodbury University LEED Certified Autodesk Certification AutoCAD and Revit
Mike Wilson	Revit, 3dsMax	B Arch New School of Architecture San Diego. Autodesk Certification 2010 Revit
Paulo da Rosa	Revit, Navisworks, Blueprint Reading	BS Civil Engineering, San Diego State University (in progress) Autodesk Certification 2010 AutoCAD and Revit
Peter Axcell	3ds Max	BS Art and BS Environmental Design San Diego State University Autodesk Certification 3ds Max Instructor
William Jennings	Revit MEP, Sustainable Design Solutions	Mesa Community College, ITT School of Drafting and Design
Victor Navarro	SketchUp	M Arch Lawrence Technological University
James Borkenhagen	Inventor, Mechanical Blueprint Reading	BA. Industrial Arts, Western State College, Gunnison, Colorado
Michael Kinnear	AutoCAD Civil 3D	BS Civil Engineering, University of California, Davis Registered PE, State of California

Nondiscrimination Policy

This institution is committed to providing equal opportunities to all applicants to programs and to all applicants for employment. Therefore, no discrimination shall occur in any program or activity of this institution, including activities related to the solicitation of students or employees on the basis of race, color, religion, religious beliefs, national origin, sex, sexual orientation, marital status, pregnancy, age, disability, veteran's status, or any other classification that precludes a person from consideration as an individual. Please direct any inquiries regarding this policy, if any, to the Chief Operations Officer who is assigned the responsibility for assuring that this policy is followed.

Student Services

This institution does not provide orientations, airport reception services, housing assistance or other services. Further, this institution maintains a focus on the delivery of educational services. Should a student encounter personal problems which interfere with his or her ability to complete coursework,

this institution will provide assistance in identifying appropriate professional assistance in the student's local community but does not offer personal counseling assistance.

Application Instructions

Part-time or full-time students must file an application with the application fee made payable to Virtual Design and Construction Institute. The application form and instructions are available and can be provided by mail or e-mail. All entering students must review program requirements.

Description of Facilities and Equipment

The Virtual Design and Construction Institute is located in a two-story professional office building, approximately one mile from the Pacific Ocean, in the Point Loma area of San Diego. The building has been completely remodeled and is approximately 40 years of age. The renovated facility fully complies with all current building codes and with all ADA code requirements. The facility serves as both a school with fully equipped computer labs, and also houses Mr. Whitley's architectural design service business.

With approximately 5,500 SF of space, the building accommodates six computer labs and the school's administrative offices. All of our classrooms include state-of-the-art computer hardware for each student including projection systems to facilitate instruction. We teach using the latest CAD, BIM and VDC software to provide our students relevant, hands-on training of how industry professionals are applying the use of current software technology. All of our classrooms provide internet access, access to our Student Information Systems and also access to our online resources.

Academic Freedom

Virtual Design and Construction Institute is committed to assuring full academic freedom to all faculty. Confident in the qualifications and expertise of its faculty members, the school encourages its faculty members to exercise their individual judgments regarding the content of the assigned courses and instructional methods, providing only that these judgments are made within the context of the course descriptions as currently published, and providing that the instructional methods are those official sanctioned by the institution.

Sexual Harassment

This institution is committed to providing a study and work environment that is free of discrimination, intimidation and harassment. In keeping with this commitment, we believe that it is necessary to affirmatively address this subject and express our strong disapproval of sexual harassment. No one associated with this institution may engage in verbal abuse of a sexual nature; use sexually degrading or graphic words to describe an individual or an individual's body; or display sexually suggestive objects or pictures at any facility or other venue associated with this institution. Students are responsible for conducting themselves in a manner consistent with the spirit and intent of this policy.

English as a Second Language Instruction

This institution does not provide ESL instruction.

Academic Transfer of Credit Policy

The school does not accept the transfer of credit.

The Process of Establishing Equivalency

Notice Concerning Transferability of Units and Degrees Earned at our School

"The transferability of credits you earn at this institution is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the graduate degree or credits you earn in our institution's Master of Arts in Acupuncture is also at the complete discretion of the institution to which you may seek to transfer. If the credits or graduate degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending our institution to determine if your credits or undergraduate degree will transfer."

This institution has not entered into an articulation or transfer agreement with any other college or university.

Program Descriptions

cadteacher/virtual design and construction institute offers the following Technology Certificate Programs:

Certificate Name	Hours of Instruction
Architectural CAD/BIM Certificate Program	244 Hours
Project Management Professional BIM Certificate Program	154 Hours
Architectural CAD Certificate Program	154 Hours
Architectural BIM Certificate Program	154 Hours
Digital Arts / Visualization Certificate Program	154 Hours
3D CAD Certificate Program	154 Hours
Civil 3D Certificate Program	154 Hours
Sustainable Design Technology Certificate Program	154 Hours
Industrial Design Technology Certificate Program	154 Hours
MEP (Mechanical, Electrical, Plumbing) BIM Certificate Program	154 Hours
Structural BIM Certificate Program	154 Hours

Architectural CAD/BIM Certificate Program

Program Description – 244 Hours of Instruction

COMPUTER-AIDED DESIGN (CAD) / BUILDING INFORMATION MODELING (BIM)
There is an increasing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of CAD and BIM software. The CAD and BIM courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business. The lessons learned and exercises practiced are based on current, industry CAD and BIM required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of CAD and BIM skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Electrical Engineers	Mechanical Engineers
Architectural Drafters	Electrical Drafters	Photovoltaic Engineers
Cabinetmakers	Industrial Designers	Real Estate Managers
Construction Managers	Interior Designers	Sound Engineers
Engineering Managers	Mechanical Drafters	Urban Planners

The **Architectural CAD/BIM Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Architectural CAD/BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Sustainable Design Technology classes – using GBS and Ecotect

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction

processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

Civil/Infrastructure-Specific Classes – These classes focus on the specific technologies appropriate to current and projected skill set requirements for the development and refurbishing of our infrastructure system and also towards site development. Students are exposed to public 3D/virtual databases and learn about 3D data management and project file sharing through web-based technologies such as project FTP, MILCON, and city/state/national databases. Coursework integrates with CALTRANS and other public agency requirements and databases.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. **Green Building Studio (GBS)** and **Ecotect** are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

Architectural CAD/BIM Certificate

Students must complete 244 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE
Required Courses			
Students must complete 180 Hours of Required Courses. Does not include prerequisites.			
PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
CAD 101	Introductory AutoCAD	24	R (2)
CAD 201	Intermediate AutoCAD	24	R
CAD 301	CAD Construction Documents 1	24	R
CAD 302	CAD Construction Documents 2	24	R
BIM 101	Introduction to Revit	16	R
BIM 201	Intermediate Revit	16	R
BIM 301	BIM Construction Documents 1	24	R
BIM 302	BIM Construction Documents 2	24	R
BIM 361	Navisworks 1	20	R
PFC 501	Certificate Completion Practical	4	R

R (1) Required. If there is work experience, must complete CAD or BIM 404, Focused Topics.

R (2) Required. If there is work experience, must complete CAD or BIM 402, Special Studies.

Elective Courses

Students must complete at least 64 Hours of Elective Courses

CAD 303	CAD Architectural Detailing	16	E
CAD 304	CAD Project Management	16	E

CAD 305	Introduction to 3D Modeling	24	E
CAD 306	Intermediate 3D Modeling	24	E
CAD 402	Special Studies	24	E
CAD 404	Focused Topics	4	E
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	E
BIM 102	BIM for Contractors	12	E
BIM 303	BIM Architectural Detailing	16	E
BIM 304	BIM Project Management	16	E
BIM 321	Revit MEP 1	24	E
BIM 341	Revit Structure 1	24	E
BIM 362	Navisworks 2	20	E
BIM 402	Special Studies	24	E
BIM 404	Focused Topics	4	E
DAC 201	Introduction to 3ds Max	24	E
DAC 221	Introduction to SketchUp	24	E
DAC 303	Introduction to Autodesk Impression	16	E
GTC 201	Solar Studies	8	E
GTC 202	Energy Analysis	12	E
GTC 203	Sustainable Analysis	12	E

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
CAD 401	Autodesk Certification Test Prep - AutoCAD	4	O
BIM 401	Autodesk Certification Test Prep - Revit	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry CAD and BIM.

Project Management Professional (PMP) BIM Certificate Program

Program Description – 154 Hours of Instruction

PROJECT MANAGMENT PROFESSIONAL (PMP) BUILDING INFORMATION MODELING (BIM) FACILITATION
There is an increasing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of BIM software at the project level. The BIM Project Management courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business for the successful project management of BIM-based construction projects. The lessons learned and exercises practiced by BIM managers and BIM Facilitators, based on current, industry BIM Project Management-required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of BIM Project Management skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Engineering Managers	Mechanical Engineers
Architectural Drafters	Electrical Engineers	MEP Project Managers
Architectural Project Managers	Electrical Drafters	Structural Engineers
BIM Facilitators	Sustainable Design/LEED Pjt. Managers	Structural Project Managers
Construction Managers	Mechanical Drafters	Urban Planners

The **Project Management Professional (PMP) BIM Certificate** is designed to provide students with the project management skills and technical knowledge requested by employers using Building Information Modeling (BIM) software. The certificate program focuses on the development of mid-level professional project managers and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Project Management Professional (PMP) BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use BIM (Building Information Modeling) in their businesses for project management.

There are three focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) BIM-specific classes – using Revit and Navisworks
(3) Sustainable Design Technology classes – using GBS and Ecotect

PFC - Fundamental Classes – We would expect that most people attending our PMP BIM courses would understand Blueprint Reading, but in the event our students do not have that on-hands experience, we provide this fundamental class. Understanding how to read a set of construction

documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. **Green Building Studio (GBS)** and **Ecotect** are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

Project Management Professional BIM Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE

Required Courses

Students must complete 116 Hours of Required Courses. Does not include prerequisites.

PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
CAD 304	CAD Project Management	16	R
BIM 101	Introduction to Revit	16	R
BIM 201	Intermediate Revit	16	R
BIM 301	BIM Construction Documents 1	24	R
BIM 304	BIM Project Management	16	R
BIM 361	Navisworks 1	20	R
PFC 501	Certificate Completion Practical	4	R
		R (1)	Required. If there is work experience, must complete CAD or BIM 404, Focused Topics.

Elective Courses

Students must complete at least 38 Hours of Elective Courses

CAD 101	Introductory AutoCAD	24	E (1)
CAD 201	Intermediate AutoCAD	24	E (1)
CAD 305	Introduction to 3D Modeling	24	E
CAD 402	Special Studies	24	E
CAD 404	Focused Topics	4	E
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	E
BIM 102	BIM for Contractors	12	E
BIM 321	Revit MEP 1	24	E
BIM 341	Revit Structure 1	24	E
BIM 402	Special Studies	24	E
BIM 404	Focused Topics	4	E
DAC 201	Introduction to 3ds Max	24	E
DAC 221	Introduction to SketchUp	24	E
DAC 303	Introduction to Autodesk Impression	16	E
GTC 201	Solar Studies	8	E
GTC 202	Energy Analysis	12	E

GTC 203	Sustainable Analysis	12	E
PFC 402	Special Studies	24	E
PFC 404	Focused Topics	4	E

E (1) -- Strongly recommended as an elective if no previous CAD experience

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
CAD 401	Autodesk Certification Test Prep - AutoCAD	4	O
BIM 401	Autodesk Certification Test Prep - Revit	4	O
Civil 3D CAD 401	Autodesk Certification Test Prep – Civil 3D	4	O
DAC 401	Autodesk Certification Test Prep – 3ds Max	4	O
IDC 401	Autodesk Certification Test Prep - Inventor	4	O
GBT 401	Autodesk Certification Test Prep - GBS	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Project Management for Construction Industry CAD and BIM.

Architectural CAD Certificate Program

Program Description – 154 Hours of Instruction

ARCHITECTURAL COMPUTER-AIDED DESIGN (CAD)
There is a strong demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of CAD software. The CAD courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business. The lessons learned and exercises practiced are based on current, industry CAD required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of CAD skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Electrical Engineers	Photovoltaic Engineers
Architectural Drafters	Electrical Drafters	Real Estate Managers
Construction Managers	Interior Designers	Sound Engineers
Contractors	Mechanical Drafters	Surveyors
Engineering Managers	Mechanical Engineers	Urban Planners

The **Architectural CAD Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Architectural CAD Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are four focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) 3D CAD-specific classes – using AutoCAD
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of

blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

3D CAD-Specific Classes – After successfully working with the 2D aspects of AutoCAD, we begin our study of 3D modeling, using **AutoCAD**. AutoCAD is one of the leading software programs used to develop 3D models which are used for project prototyping, integration with industrial design programs such as Inventor, incorporation into BIM and also used in virtual environments created in 3ds Max and SketchUp. Our 3D modeling classes are specifically designed to provide the appropriate skillsets for the professional application and use of 3D models.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

Architectural CAD Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE

Required Courses

Students must complete 116 Hours of Required Courses. Does not include prerequisites.

PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
CAD 101	Introductory AutoCAD	24	R (2)

CAD 201	Intermediate AutoCAD	24	R
CAD 301	CAD Construction Documents 1	24	R
CAD 302	CAD Construction Documents 2	24	R
CAD 303	CAD Architectural Detailing	16	R
CAD 304	CAD Project Management	16	R
PFC 501	Certificate Completion Practical	4	R

R (1) Required. If there is work experience, must complete CAD 404, Focused Topics.

R (2) Required. If there is work experience, must complete CAD, Special Studies.

Elective Courses

Students must complete at least 38 Hours of Elective Courses.

CAD 305	Introduction to 3D Modeling	24	E
CAD 306	Intermediate 3D Modeling	24	E
CAD 402	Special Studies	24	E
CAD 404	Focused Topics	4	E
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	E
BIM 101	Introduction to Revit	16	E
BIM 201	Intermediate Revit	16	E
BIM 321	Revit MEP 1	24	E
BIM 341	Revit Structure 1	24	E
BIM 361	Navisworks 1	20	E
DAC 201	Introduction to 3ds Max	24	E
DAC 221	Introduction to SketchUp	24	E
DAC 303	Introduction to Autodesk Impression	16	E
GTC 201	Solar Studies	8	E
GTC 202	Energy Analysis	12	E
GTC 203	Sustainable Analysis	12	E

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
CAD 401	Autodesk Certification Test Prep - AutoCAD	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry CAD.

Architectural BIM Certificate Program

Program Description – 154 Hours of Instruction

ARCHITECTURAL BUILDING INFORMATION MODELING (BIM)
There is an increasing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of architecturally-based BIM software. The BIM courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business. The lessons learned and exercises practiced are based on current, industry CAD and BIM required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of BIM skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Electrical Engineers	Mechanical Drafters
Architectural Drafters	Electrical Drafters	Mechanical Engineers
Construction Managers	Sustainable Design Professionals	MEP Trades People
Contractors	Interior Designers	Sustainable Design Professionals
Engineering Managers	LEED Professionals	Urban Planners

The **Architectural BIM Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Architectural BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Sustainable Design Technology classes – using GBS and Ecotect

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course

utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. **Green Building Studio (GBS)** and **Ecotect** are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable

Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

Architectural BIM Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE

Required Courses

Students must complete 116 Hours of Required BIM Courses. Does not include prerequisites.

PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
BIM 101	Introduction to Revit	16	R
BIM 201	Intermediate Revit	16	R
BIM 301	BIM Construction Documents 1	24	R
BIM 302	BIM Construction Documents 2	24	R
BIM 303	BIM Architectural Detailing	16	R
BIM 304	BIM Project Management	16	R
BIM 361	Navisworks 1	20	R
PFC 501	Certificate Completion Practical	4	R
		R (1)	Required. If there is work experience, must complete BIM 404, Focused Topics.

Elective Courses

Students must complete at least 38 Hours of Elective Courses

CAD 101	Introductory AutoCAD	24	E (1)
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	E
BIM 102	BIM for Contractors	12	E
BIM 321	Revit MEP 1	24	E
BIM 341	Revit Structure 1	24	E
BIM 362	Navisworks 2	20	R
BIM 402	Special Studies	24	E
BIM 404	Focused Topics	4	E
DAC 201	Introduction to 3ds Max	24	E
DAC 221	Introduction to SketchUp	24	E
DAC 303	Introduction to Autodesk Impression	16	E

GTC 201	Solar Studies	8	E
GTC 202	Energy Analysis	12	E
GTC 203	Sustainable Analysis	12	E

E (1) -- Strongly recommended as an elective if no previous CAD experience

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
CAD 401	Autodesk Certification Test Prep - AutoCAD	4	O
BIM 401	Autodesk Certification Test Prep - Revit	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry BIM.

Digital Arts (Visualization) Certificate Program

Program Description – 154 Hours of Instruction

DIGITAL ARTS (VISUALIZATION) SOFTWARE
There is a strong demand for competent architectural/engineering/construction/design and engineering technicians knowledgeable in the application and integration of architecturally-based digital arts (visualization) software, in addition to their more typical uses of CAD and BIM software. The digital arts software technology courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in applying visualization software to a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by business. The lessons learned and exercises practiced are based on current, industry digital arts/visualization-focused skill sets.

People doing visualization work in the construction industry need to understand the relationship between plan, elevation and section views of components to be modeled. For that reason, we start our visualization certificate program with our blueprint reading course. We then have people learn basic AutoCAD and also 3D modeling in AutoCAD. From there, they develop their animation and rendering skills using SketchUp and 3ds Max, which are the leading software tools used to create a range of renderings and animations.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of Visualization software skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Advertising/Promotion Mgrs	Engineering Managers	Landscape Architects & Designers
Architects	Fashion Designers	Store & Trade Show Designers
Art Directors	Graphic Designers	Real Estate Managers
Biomedical Engineers	Industrial Designers	Theatre/Stage/Set Designers
Civil Engineers	Interior Designers	Urban Planners

Our **Digital Arts (Visualization) Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are six focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) 3D CAD-specific classes – using AutoCAD
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) BIM-specific classes – using Revit and Navisworks
(6) Civil/Infrastructure-specific classes – using Civil 3D

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

3D CAD-Specific Classes – After successfully working with the 2D aspects of AutoCAD, we begin our study of 3D modeling, using **AutoCAD**. AutoCAD is one of the leading software programs used to develop 3D models which are used for project prototyping, integration with industrial design programs such as Inventor, incorporation into BIM and also used in virtual environments created in 3ds Max and SketchUp. Our 3D modeling classes are specifically designed to provide the appropriate skillsets for the professional application and use of 3D models.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

Civil 3D CAD - Civil/Infrastructure-Specific Classes – These classes focus on the specific technologies appropriate to current and projected skill set requirements for the development and refurbishing of our infrastructure system and also towards site development. Students are exposed to public 3D/virtual databases and learn about 3D data management and project file sharing through web-based technologies

such as project FTP, MILCON, and city/state/national databases. Coursework integrates with CALTRANS and other public agency requirements and databases.

DAC - Digital Arts/Visualization Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE

Required Courses

Students must complete 116 Hours of Required DAC Courses. Does not include prerequisites.

PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
DAC 201	Introduction to 3ds Max	24	R
DAC 202	Intermediate 3ds Max	24	R
DAC 221	Introduction to SketchUp	24	R
DAC 301	Animation 1	24	R
DAC 303	Introduction to Autodesk Impression	16	R
DAC 304	Project Management	16	R
PFC 501	Certificate Completion Practical	4	R
		R (1)	Required. If there is work experience, must complete DAC 404, Focused Topics.

Elective Courses

Students must complete at least 38 Hours of Elective Courses

CAD 101	Introductory AutoCAD	24	E (1)
CAD 305	Introduction to 3D Modeling	24	E
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	E
BIM 101	Introduction to Revit	16	E
BIM 102	BIM for Contractors	12	E
BIM 201	Intermediate Revit	16	E
DAC 402	Special Studies	24	E
DAC 404	Focused Topics	4	E
GTC 201	Solar Studies	8	E
GTC 202	Energy Analysis	12	E
GTC 203	Sustainable Analysis	12	E

E (1) -- Strongly recommended as an elective if no previous CAD experience

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
DAC 401	Autodesk Certification Test Prep – 3dsMax	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry Digital Arts/Visualization.

3D CAD Certificate Program

Program Description – 154 Hours of Instruction

3D CAD
Today, and for the foreseeable future, there is a growing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of architecturally-based 3D CAD software programs. The 3D CAD courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by businesses. The lessons learned and exercises practiced are based on current, industry 3D CAD-required skills.

The core of our 3D CAD Certificate curriculum provides significant exposure to the important concepts of 3D modeling. Students are provided the flexibility of directing their 3D studies towards the Construction Industry, Industrial Design/Manufacturing industry or the Visualization and/or Gaming industries.

Students learn to model in AutoCAD, Inventor, 3ds Max, SketchUp and/or Navisworks (depending on the elective courses chosen). As a special benefit for their portfolio, students are encouraged to participate in the Customized Project classes to allow them to develop 3D modeling projects which specifically relate to their chosen profession.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of CAD, BIM and Visualization 3D Modeling skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Electrical Engineers	Mechanical Engineers
Architectural Drafters	Electrical Drafters	Photovoltaic/Solar Engineers
BIM Modelers	Industrial Designers	Real Estate Managers
Commercial Designers	Interior Designers	Sound Engineer Professionals
Engineering Managers	Mechanical Drafters	Urban Planners

The **3D CAD Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **3D CAD Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading

(2) CAD-specific classes – using AutoCAD
(3) 3D CAD-specific classes – using AutoCAD
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Civil/Infrastructure-specific classes – using Civil 3D

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

3D CAD-Specific Classes – After successfully working with the 2D aspects of AutoCAD, we begin our study of 3D modeling, using **AutoCAD**. AutoCAD is one of the leading software programs used to develop 3D models which are used for project prototyping, integration with industrial design programs such as Inventor, incorporation into BIM and also used in virtual environments created in 3ds Max and SketchUp. Our 3D modeling classes are specifically designed to provide the appropriate skillsets for the professional application and use of 3D models.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

Civil 3D CAD - Civil/Infrastructure-Specific Classes – These classes focus on the specific technologies appropriate to current and projected skill set requirements for the development and refurbishing of our infrastructure system and also towards site development. Students are exposed to public 3D/virtual databases and learn about 3D data management and project file sharing through web-based technologies such as project FTP, MILCON, and city/state/national databases. Coursework integrates with CALTRANS and other public agency requirements and databases.

3D CAD Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE
Required Courses			
Students must complete 116 Hours of Required Courses. Does not include prerequisites.			
PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
CAD 305	Introduction to 3D Modeling	24	R
CAD 306	Intermediate 3D Modeling	24	R
DAC 201	Introduction to 3ds Max	24	R
DAC 221	Introduction to SketchUp	24	R
PFC 501	Certificate Completion Practical	4	R
		R (1)	Required. If there is work experience, must complete CAD 404, Focused Topics.
Elective Courses			
Students must complete at least 38 Hours of Elective Courses			
CAD 101	Introductory AutoCAD	24	E (1)
CAD 402	Special Studies	24	E
CAD 404	Focused Topics	4	E
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	E
Optional Courses			
PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
CAD 401	Autodesk Certification Test Prep - AutoCAD	4	O

E (1) -- Strongly recommended as an elective if no previous CAD experience

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry 3D CAD.

Civil 3D Certificate Program

Program Description – 154 Hours of Instruction

CIVIL 3D CAD
In today's environment of infrastructure improvement, there is a growing demand for competent engineering/construction/design engineering technicians knowledgeable in the application and integration of civil engineering-based Civil 3D CAD software programs. The Civil 3D courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by offices specializing in infrastructure improvement and civil engineering. The lessons learned and exercises practiced are based on current, industry Civil 3D CAD-required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of Civil (Engineering) CAD skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

CALTRANS Staff	Electrical Engineers	Site Surveyors
Civil Engineering Drafters	Facilities Engineers	Storm Water Engineers
Civil Engineers	Infrastructure Engineers	Transportation Engineers
Construction Managers	Mass Transit Engineers	Urban Planners
Coastal Commission Engineers	Mechanical Engineers	Utilities Engineers

The **Civil 3D Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Civil 3D Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are four focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) 3D CAD-specific classes – using AutoCAD
(4) Civil/Infrastructure-specific classes – using Civil 3D

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction

processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

3D CAD-Specific Classes – After successfully working with the 2D aspects of AutoCAD, we begin our study of 3D modeling, using **AutoCAD**. AutoCAD is one of the leading software programs used to develop 3D models which are used for project prototyping, integration with industrial design programs such as Inventor, incorporation into BIM and also used in virtual environments created in 3ds Max and SketchUp. Our 3D modeling classes are specifically designed to provide the appropriate skillsets for the professional application and use of 3D models.

Civil 3D CAD - Civil/Infrastructure-Specific Classes – These classes focus on the specific technologies appropriate to current and projected skill set requirements for the development and refurbishing of our infrastructure system and also towards site development. Students are exposed to public 3D/virtual databases and learn about 3D data management and project file sharing through web-based technologies such as project FTP, MILCON, and city/state/national databases. Coursework integrates with CALTRANS and other public agency requirements and databases.

Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

Civil 3D CAD Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE

Required Courses

Students must complete 116 Hours of Required Courses. Does not include prerequisites.

PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
CAD 201	Intermediate AutoCAD	24	R
CAD 305	Introduction to 3D Modeling	24	R
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	R
Civil 3D CAD 302	Intermediate Autodesk Civil 3D	24	R
Civil 3D CAD 303	Pipe and Layout Design	24	R
PFC 501	Certificate Completion Practical	4	R

R (1) Required. If there is work experience, must complete Civil 3D CAD BIM 404, Focused Topics.

Elective Courses

Students must complete at least 38 Hours of Elective Courses

CAD 101	Introductory AutoCAD	24	E (1)
Civil 3D CAD 402	Special Studies	24	E
Civil 3D CAD 404	Focused Topics	4	E
BIM 101	Introduction to Revit	16	E
BIM 201	Intermediate Revit	16	E
BIM 361	Navisworks 1	20	E
DAC 201	Introduction to 3ds Max	24	E
DAC 221	Introduction to SketchUp	24	E
DAC 303	Introduction to Autodesk Impression	16	E
GTC 201	Solar Studies	8	E
GTC 203	Sustainable Analysis	12	E

E (1) -- Strongly recommended as an elective if no previous CAD experience

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
CAD 401	Autodesk Certification Test Prep - AutoCAD	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry Civil 3D.

Sustainable Design Technology Certificate Program

Program Description – 154 Hours of Instruction

SUSTAINABLE DESIGN TECHNOLOGY

In today's environment, there is increasing demand requirement for use of Sustainable Design Technology to ensure sustainable construction and life-cycle support of the built environment. There is a very strong demand for competent engineering/construction/design engineering technicians knowledgeable in the application and integration of Sustainable Design/Sustainable Design-based software programs. The Sustainable Design Technology courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by offices augmenting their standard construction-based practices with emphasis on Sustainable Design Technology solutions. The lessons learned and exercises practiced are based on current, industry-required skills in Sustainable Design Technology.

CAREER OPTIONS

The following list is a sample of disciplines that employ people with a strong, working knowledge of Sustainable Design Technology skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Engineering Managers	Mechanical Engineers
Architectural Drafters	Electrical Engineers	MEP Project Managers
Architectural Project Managers	Electrical Drafters	Structural Engineers
BIM Facilitators	Sustainable Design/LEED Pjt. Managers	Structural Project Managers
Construction Managers	Mechanical Drafters	Urban Planners

The **Sustainable Design Technology Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Sustainable Design Technology Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:

(1) Fundamental classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Sustainable Design Technology-specific classes – using GBS and Ecotect

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. **Green Building Studio (GBS)** and **Ecotect** are the leading, industry standard software programs for Sustainable

Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

GBT – Sustainable Design Technology Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE

Required Courses

Students must complete 116 Hours of Required Courses. Does not include prerequisites.

PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
BIM 101	Introduction to Revit	16	R
BIM 201	Intermediate Revit	16	R
BIM 361	Navisworks 1	20	R
GTC 102	Introduction to Sustainable Building Design	12	R
GTC 103	Intermediate Sustainable Building Design	12	R
GTC 201	Advanced Sustainable Building Design	12	R
GTC 202	Introduction to Energy Analysis	20	R
PFC 501	Certificate Completion Practical	4	R
		R (1)	Required. If there is work experience, must complete GTC 404, Focused Topics.

Elective Courses

Students must complete at least 38 Hours of Elective Courses

CAD 101	Introductory AutoCAD	24	E (1)
GTC 402	Special Studies	24	E
GTC 404	Focused Topics	4	E
BIM 102	BIM for Practicing Contractors	12	E
BIM 301	BIM Construction Documents 1	24	E
BIM 321	Revit MEP 1	24	E
DAC 201	Introduction to 3ds Max	24	E

DAC 221	Introduction to SketchUp	24	E
DAC 303	Introduction to Autodesk Impression	16	E

E (1) -- Strongly recommended as an elective if no previous CAD experience

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
GTC 401	Autodesk Certification Test Prep	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry Sustainable Design Technology.

Industrial Design Technology Certificate Program

Program Description – 154 Hours of Instruction

INDUSTRIAL DESIGN TECHNOLOGY

In today's environment, there is a very strong demand for use of digital prototyping and the virtual design and construction of mechanical equipment and assemblies. The demand for competent mechanical/industrial and engineering/design technicians knowledgeable in the application and integration of Industrial Design software continues to grow. The Industrial Design courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are structured to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of mechanical engineering/industrial design-focused disciplines. The curriculum is based on the current professional skill sets required by manufacturers, manufacturing engineers and designers who integrate Industrial Design Technology into their businesses. The lessons learned and exercises practiced are based on current, industry-required skills in Industrial Design Technology.

Our curriculum is designed to guide the student from the design implementation phase to the actual development of the mechanical and assembly drawings needed to have designs manufactured. As a bonus, because the program works in a virtual capacity, the user can test-drive their design, see it in motion, check for appropriate clearances and other important factors towards having a successful design.

CAREER OPTIONS

The following list is a sample of disciplines that employ people with a strong, working knowledge of Industrial Design CAD and digital prototyping software skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Electronics Engineers	Industrial Designers	Power Equipment Designers
Environmental Engineers	Industrial Engineers	Sheet Metal Fabricators
Equipment Designers	Industrial Production Mgrs.	Transportation Managers
HSW Engineers	Materials Engineers	Truck Mechanics
HVAC System Designers	Motorcycle Mechanics	Vehicle Mechanics

The **Industrial Design Technology Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Industrial Design Technology Certificate** curriculum is built around industrial design and manufacturing engineering firms use CAD (Computer Aided Drafting) and Digital Prototyping in their businesses for project prototyping and assembly drawing documentation.

There are five focus areas of study for this certificate:

(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) 3D CAD-specific classes – using AutoCAD
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Industrial Design-specific classes – using Inventor and the Vault

Industrial designers, mechanical designers and manufacturing engineers document and digitally-prototype their projects using CAD and Solids Modeling software. Autodesk Inventor is one of the leading 3D parametric solid modeling packages on the market.

PFC - Fundamental Classes - Understanding how to read a set of mechanical/manufacturing assembly drawings is of primary importance to anyone working in the industrial design and manufacturing industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Manufacturing Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review sets of assembly drawings.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

3D CAD-Specific Classes – After successfully working with the 2D aspects of AutoCAD, we begin our study of 3D modeling, using **AutoCAD**. AutoCAD is one of the leading software programs used to develop 3D models which are used for project prototyping, integration with industrial design programs such as Inventor, incorporation into BIM and also used in virtual environments created in 3ds Max and SketchUp. Our 3D modeling classes are specifically designed to provide the appropriate skill sets for the professional application and use of 3D models.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

IDC - Industrial Design-Specific Classes – Most clients want the ability to prototype, test and document their projects in one integrated software package. Autodesk Inventor is one of the three

leading digital prototype software solutions currently available. Autodesk Inventor is a 3D parametric solid-modeling program. Our curriculum is designed to guide the student from the design implementation phase to the actual development of the mechanical and assembly drawings needed to have the design manufactured. Because of the technical capabilities of the software, the computer-based model can be animated, to see the model in motion, check for appropriate clearances and other important factors towards creating a successful design model.

IDT – Industrial Design Technology Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE

Required Courses

Students must complete 116 Hours of Required Courses. Does not include prerequisites.

PFC 102	Blueprint Reading for the Mechanical Industry	4	R (1)
IDC 101	Introduction to Inventor	24	R
IDC 201	Intermediate Inventor	24	R
IDC 301	Detailed Assembly Modeling	24	R
IDC 304	Project Management	16	R
PFC 501	Certificate Completion Practical	4	R
		R (1)	Required. If there is work experience, must complete CAD or BIM 404, Focused Topics.

Elective Courses

Students must complete at least 38 Hours of Elective Courses

CAD 101	Introductory AutoCAD	24	E
CAD 305	Introduction to 3D Modeling	24	E
IDC 302	Advanced Parts Modeling	24	E
IDC 303	Advanced Surface Modeling	24	E
IDC 402	Special Studies	24	E
IDC 404	Focused Topics	4	E
DAC 201	Introduction to 3ds Max	24	E

E (1) -- Strongly recommended as an elective if no previous CAD experience

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
IDC 401	Autodesk Certification Test Prep - Inventor	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Industrial Design Technology.

MEP BIM Certificate Program

Program Description – 154 Hours of Instruction

MEP BUILDING INFORMATION MODELING (BIM)
There is an increasing demand for competent engineering/construction/design engineering technicians knowledgeable in the application and integration of MEP (Mechanical/Electrical and Plumbing) -based BIM software. The BIM courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of trades, engineering and construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by these businesses. The lessons learned and exercises practiced are based on current, industry MEP BIM-required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of MEP (Mechanical, Electrical and Plumbing BIM skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

BIM Facilitators	Electrical Trades Professionals	MEP Project Managers
Construction Managers	Fire Sprinkler Trades Professionals	MEP Trades Professionals
Contractors	Mechanical Drafters	Plumbing Designers
Electrical Engineers	Mechanical Engineers	Plumbing Engineers
Electrical Drafters	MEP Drafters	Plumbing Trades Professionals

The **MEP BIM Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **MEP BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Sustainable Design Technology-specific classes – using GBS and Ecotect

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction

processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. **Green Building Studio (GBS)** and **Ecotect** are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable

Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

MEP BIM Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE
Required Courses			
Students must complete 116 Hours of Required BIM Courses. Does not include prerequisites.			
PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
BIM 101	Introduction to Revit	16	R
BIM 201	Intermediate Revit	16	R
BIM 301	BIM Construction Documents 1	24	R
BIM 321	Revit MEP 1	24	R
BIM 322	Revit MEP 2	24	R
BIM 304	BIM Project Management	16	R
BIM 361	Navisworks 1	20	R
PFC 501	Certificate Completion Practical	4	R
		R (1)	Required. If there is work experience, must complete BIM 404, Focused Topics.
Elective Courses			
Students must complete at least 38 Hours of Elective Courses			
CAD 101	Introductory AutoCAD	24	E (1)
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	E
BIM 102	BIM for Contractors	12	E
BIM 302	BIM Construction Documents 2	24	E
BIM 303	BIM Architectural Detailing	16	E
BIM 341	Revit Structure 1	24	E
BIM 342	Revit Structure 2	24	E
BIM 362	Navisworks 2	20	E
BIM 402	Special Studies	24	E

BIM 404	Focused Topics	4	E
DAC 201	Introduction to 3ds Max	24	E
DAC 221	Introduction to SketchUp	24	E
DAC 303	Introduction to Autodesk Impression	16	E
GTC 201	Solar Studies	8	E
GTC 202	Energy Analysis	12	E
GTC 203	Sustainable Analysis	12	E
GTC 204	Design Analysis	12	E

E (1) -- Strongly recommended as an elective if no previous CAD experience

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
CAD 401	Autodesk Certification Test Prep - AutoCAD	4	O
BIM 401	Autodesk Certification Test Prep - Revit	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry MEP BIM.

Structural BIM Certificate Program

Program Description – 154 Hours of Instruction

STRUCTURAL BUILDING INFORMATION MODELING (BIM)
As the technology is stabilizing and as it is successfully integrating itself with the seismic and lateral engineering analysis programs, there is (and will continue to be) a growing demand for competent architectural/engineering/construction/design engineering technicians knowledgeable in the application and integration of Structural (Engineering)-based BIM software. The Structural BIM courses at the Virtual Design and Construction Institute provide students the opportunity to obtain a certificate in these areas. The classes are designed to provide students an opportunity to learn relevant skills and technical knowledge used in a variety of trades, engineering and construction industry-focused disciplines. The curriculum is based on the current professional skill sets required by these businesses. The lessons learned and exercises practiced are based on current, industry STRUCTURAL BIM-required skills.

CAREER OPTIONS
The following list is a sample of disciplines that employ people with a strong, working knowledge of Structural (Engineering) BIM skill sets. Some areas require that their employees have professional training and/or experience in addition to the technical training learned at the Virtual Design and Construction Institute:

Architects	Engineering Managers	Steel Fabricators
Architectural Drafters	Electrical Engineers	Structural Designers
Architectural Project Managers	Electrical Drafters	Structural Engineers
BIM Facilitators	Sustainable Design/LEED Pjt. Managers	Structural Project Managers
Construction Managers	MEP Project Managers	Urban Planners

The **Structural BIM Certificate** is designed to provide students with the skills and technical knowledge requested by employers using Computer-Aided Design (CAD) and Building Information Modeling (BIM) software. The certificate program focuses on the development of fundamental drafting and CAD and BIM skills and problem-solving strategies. Please see the Course Descriptions for further information on class content.

Our **Structural BIM Certificate** curriculum is built around how architects, engineers, contractors and trades professionals use CAD (Computer Aided Drafting) and BIM (Building Information Modeling) in their businesses for project documentation.

There are five focus areas of study for this certificate:
(1) Fundamental Classes – Blueprint Reading
(2) CAD-specific classes – using AutoCAD
(3) BIM-specific classes – using Revit and Navisworks
(4) Digital Arts (Visualization)-specific classes – using 3dsMax and SketchUp
(5) Sustainable Design Technology-specific classes – using GBS and Ecotect

PFC - Fundamental Classes - Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name

for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." Our **Blueprint Reading for the Construction Industry** course utilizes lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents.

CAD-Specific Classes – After our Blueprint Reading classes, we begin our study of CAD, using **AutoCAD**. In the construction industry, knowing how to use AutoCAD is as valuable a skill as knowing how to use MS Office. AutoCAD is THE DEFACTO STANDARD used at all levels and by all disciplines in the construction industry - including facilities people, sound engineers, trades professionals and solar power people, to name a few. Our introductory, intermediate and advanced classes document two residential projects - from the ground up. By the completion of our AutoCAD series of classes, a complete set of construction documents will be built for a moderately complicated project – a project worthy of presentation during a job interview. The completed project includes a full set of construction documents, including details.

BIM-Specific Classes – After learning AutoCAD, our students expand their knowledge base into the realm of Building Information Modeling (BIM). **Revit** is the industry standard software program for BIM. In Revit, you create a 3D model of a project and extract the construction documents directly from the BIM model. All of our Revit classes are linked together, so a student constantly builds on lessons learned in the previous classes. By the completion of our Revit series of classes, a complete set of construction documents will be built for a moderately complicated commercial project. Today, Government, Military, Hospital, Education and other similarly-scaled projects require that their work be completed in Revit (BIM).

It is becoming increasingly common for construction managers to run 3D interference checks on the Revit model using **Navisworks**. For example, Navisworks analyzes where the mechanical, plumbing, structural and other disciplines' design work are occupying the same location in the building. By identifying these interferences during design, significant dollars are saved during construction, and change orders are significantly reduced. Today, most Government, Military, Hospital, Education and other similarly-scaled projects require that their work be analyzed in Navisworks.

DAC - Digital Arts (Visualization)-Specific Classes – Most clients want both technical documentation on their projects and renderings and animations. SketchUp is a software program which is regularly used in the construction industry to create preliminary 3D designs for construction projects. 3ds Max is an incredible animation and rendering program which is used for construction renderings, animations, fly-throughs, product visualizations and even in the gaming and multi-media industries. We have carefully developed our training in SketchUp and 3dsMax courses to most effectively assist our students target their skills appropriately. We have also included Autodesk Impression, a presentation program regularly used by architects and designers to present their designs to regulatory agencies.

GTC - Sustainable Design Technology-Specific Classes – After learning Revit and Navisworks, our students expand their knowledge base into the realm of Sustainable Design. **Green Building Studio (GBS)** and **Ecotect** are the leading, industry standard software programs for Sustainable Design/Sustainable Technology. In both GBS and Ecotect, you develop and analyze your Revit model and conduct your energy analysis directly from the BIM model. All of our BIM and Sustainable

Design Technology classes are linked together, so a student constantly builds on lessons learned in the previous classes.

Structural BIM Certificate

Students must complete 154 Hours of Required and Elective Courses

Course Number	Course Name	Number of Hours	**Prerequisite** – P **Required** – R **Optional** – O **Elective** – E **Work Experience** - WE

Required Courses

Students must complete 116 Hours of Required BIM Courses. Does not include prerequisites.

PFC 101	Blueprint Reading for the Construction Industry	4	R (1)
BIM 101	Introduction to Revit	16	R
BIM 201	Intermediate Revit	16	R
BIM 301	BIM Construction Documents 1	24	R
BIM 341	Revit Structure 1	24	R
BIM 342	Revit Structure 2	24	R
BIM 304	BIM Project Management	16	R
BIM 361	Navisworks 1	20	R
PFC 501	Certificate Completion Practical	4	R
		R (1)	Required. If there is work experience, must complete CAD or BIM 404, Focused Topics.

Elective Courses

Students must complete at least 38 Hours of Elective Courses

CAD 101	Introductory AutoCAD	24	E (1)
Civil 3D CAD 301	Introduction to Autodesk Civil 3D	24	E
BIM 102	BIM for Contractors	12	E
BIM 302	BIM Construction Documents 2	24	E
BIM 303	BIM Architectural Detailing	16	E
BIM 321	Revit MEP 1	24	E
BIM 322	Revit MEP 2	24	E
BIM 362	Navisworks 2	20	E
BIM 402	Special Studies	24	E
BIM 404	Focused Topics	4	E
DAC 201	Introduction to 3ds Max	24	E

DAC 221	Introduction to SketchUp	24	E
DAC 303	Introduction to Autodesk Impression	16	E
GTC 201	Solar Studies	8	E
GTC 202	Energy Analysis	12	E
GTC 203	Sustainable Analysis	12	E
GTC 204	Design Analysis	12	E

E (1) -- Strongly recommended as an elective if no previous CAD experience

Optional Courses

PFC 301	Resume Preparation	4	O
PFC 302	Interviewing Skills	4	O
PFC 303	Professional Self-Marketing	4	O
CAD 401	Autodesk Certification Test Prep - AutoCAD	4	O
BIM 401	Autodesk Certification Test Prep - Revit	4	O

Requirements for Completion

To complete this program a student must attend a minimum of 90% of the scheduled hours of instruction, achieve an average score of 80% or greater on quizzes and exams, and pass an instructor monitored practical exam demonstrating competence in Construction Industry Structural BIM.

Course Descriptions

Codes

WE = Work Experience

Course Name	Course Description
Computer-Aided Design (CAD) Courses	
CAD 101 **Introductory AutoCAD** 24 credits Prerequisite: BPR 101 (WE) Corequisite: None 24 hours	An introductory level course for professional designers, architects, engineers and others seeking job transition and professional advancement through acquiring computer design skills. By the conclusion of this class, participants will be able to apply AutoCAD for 2D design projects and will be qualified to enroll in the working drawings and three-dimensional (3D) AutoCAD classes.
CAD 201 **Intermediate AutoCAD** 24 credits Prerequisites: CAD 101 (WE) Corequisite: None 24 hours	The course covers commands relevant to two-dimensional drafting techniques and especially the prowess involved in developing a set of architectural working drawings. At the conclusion of the course, students will be able to enroll in the Working Drawings, CAD 3D Modeling and AutoCAD Project Management and Revit courses.
CAD 301 **CAD Construction Documents 1** 24 credits Prerequisites: CAD 201 (WE) Corequisite: None 24 hours	The technical aspects of AutoCAD will be addressed including file referencing, paper/model space, database objects and the relational aspects of building sections, wall sections, multi-scale drawings and architectural details. Students will develop a set of working drawing set for a residential project using Office Drafting Standards.
CAD 302 **CAD Construction Documents 2** 24 credits Prerequisites: CAD 301 (WE) Corequisite: None 24 hours	Additional technical aspects of AutoCAD will be addressed including file referencing, paper/model space, database objects and the relational aspects of building sections, wall sections, multi-scale drawings and architectural details. Students will complete the development of a set of working drawing set for a residential project using Office Drafting Standards.
CAD 303 **CAD Architectural Detailing** 16 credits Prerequisites: CAD 302 (WE) Corequisite: None	Develop a clear understanding of the importance of graphic clarity between multi-scale detail drawings which are presented in a single construction document sheet. This class focuses on strengthening these skills and gives the class participants excellent practice in achieving these skills.

16 hours	
CAD 304 **Project Management** 16 credits Prerequisites: CAD 302 (WE) Corequisite: None 16 hours	Project Management and Document Coordination. This class ensures that students have the relevant exposure to organizing and managing a CAD-generated set of construction documents. This class is relevant for all disciplines in the construction industry.
CAD 305 **Introduction to 3D Modeling** 24 credits Prerequisites: CAD 101 (WE) Corequisite: None 24 hours	This course introduces 3D modeling concepts and will utilize lectures, hands-on demonstrations and lab exercises to familiarize class participants with AutoCAD commands relevant for 3D modeling. The course is targeted for 3D modeling of buildings and building systems which can be used for conflict resolution in Building Information Modeling (BIM). The 3D drawings will allow the class participant to show multiple perspective views of their computer model in one plotted drawing, and steps necessary to take the 3D model into Navisworks and Revit.
CAD 306 **Intermediate 3D Modeling** 24 credits Prerequisites: CAD 305 (WE) Corequisite: None 24 hours	An advanced 3D modeling course which continues 3D modeling for BIM and expands to prepare the student for 3D modeling with 3dsMax, SketchUp and other rendering and animation software programs.
CAD 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: CAD 301 (WE) Corequisite: None 4 hours	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for AutoCAD. Course may be repeated.
CAD 402 **Special Studies** 24 credits Prerequisites: CAD 304 (WE) Corequisite: None 24 on-site hours or equivalent	Targeted topics based on current software demand requirements in the Construction Industry. Course may be repeated. This same course number may be applied to special studies in either 2D (Construction Documents) or 3D modeling.
CAD 403 **On-Site Internship** 24 credits Prerequisites: CAD 304 (WE)	VDCI/cadteacher has established relationships with architectural, engineering and construction/contracting (AEC) firms. Our students will work with these AEC firms to obtain real-world practical experience. Course may be repeated.

Corequisite: None 24 on-site hours or equivalent	
CAD 404 **Focused Topics** 4 credits Prerequisites: CAD 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.

Civil 3D Computer-Aided Design (Civ3D) Courses

Civil 3D CAD 301 **Introductory Autodesk Civil 3D** 24 credits Prerequisites: CAD 201 (WE) Corequisite: None 24 on-site hours or equivalent	Students learn how to work with point data in AutoCAD Civil 3D; create and analyze a surface; develop a site; model roads, corridors, and pipe networks; work with survey data; and import and export data. Hands-on exercises throughout the courseware are provided in both a printed format as well as an onscreen format.
Civil 3D CAD 302 **Intermediate Autodesk Civil 3D** 24 credits Prerequisites: Civil 3D 301 (WE) Corequisite: None 24 on-site hours or equivalent	In this hands-on in-depth course the student works through an actual site. Topics covered include: Project Setup and Management, Horizontal Site Design, Vertical Roadway Design, Complex Corridor Modeling, Complex Site Grading and Calculating Earthworks.
Civil 3D CAD 303 **Autodesk Civil 3D Pipe & Layout Design** 24 credits Prerequisites: Civil 3D 302 (WE) Corequisite: None 24 on-site hours or equivalent	This class explores the pipe layout and drafting tools in AutoCAD Civil and Civil 3D, their application in typical projects, and their interaction with pipe design and analysis software. The class will also explore Civil 3D's pipe annotation capabilities and the ability to produce design deliverables.
Civil 3D CAD 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: Civil 3D 302 (WE) Corequisite: None 4 hours	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for AutoCAD Civil 3D. Course may be repeated.
Civil 3D CAD 402 **Special Studies** 24 credits Prerequisites: Civil 3D 301 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the Construction Industry. Course may be repeated.
Civil 3D CAD 403 **On-Site Internship** 24 credits Prerequisites: Civil 3D 303 (WE)	VDCI/cadteacher has established relationships with architectural, engineering and construction/contracting (AEC) firms. Our students will work with these AEC firms to obtain real-world practical experience. Course may be repeated.

Corequisite: None 24 on-site hours or equivalent	
Civil 3D CAD 404 **Focused Topics** 4 credits Prerequisites: Civil 3D CAD 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.

Building Information Modeling (BIM) Courses

BIM 101 **Introduction to Revit** 16 credits Prerequisites: CAD 101 (WE) Corequisite: None 16 on-site hours or equivalent	For students looking for an overview of building information modeling (BIM) using Revit Architecture. The course examines how Revit users design 3D models that simultaneously document the project in schedules and 2D architectural drawings.
BIM 102 **BIM for Practicing Contractors** 12 credits Prerequisites: CAD 101 (WE) Corequisite: None 12 on-site hours or equivalent	This course focuses on the Autodesk ”freeware” which is available to the construction industry and which is commonly used on the job site by the trades professionals constructing the buildings. Software used includes: Navisworks Freedom Viewer, Buzzsaw, DREV and the DWG Viewer
BIM 201 **Intermediate Revit** 16 credits Prerequisites: BIM 101 (WE) Corequisite: None 16 on-site hours or equivalent	In the intermediate course, topics include scheduling building components, using the family editor to create 2D and 3D components, refining graphics, and construction documentation. By the conclusion of this course, students will be able to develop a BIM model independently and understand how to organize it as an integrated, interoperable construction document set. 16 hrs.
BIM 301 **BIM Construction Documents 1** 24 credits Prerequisites: BIM 201 (WE) Corequisite: None 24 on-site hours or equivalent	We will be developing a full set of Construction Documents using Revit. The class project includes doing a two-story addition to an existing one-story commercial building. The premise is that there are existing AutoCAD drawings for the original building, and that the new addition will be constructed using Revit. 24 hrs.
BIM 302 **BIM Construction Documents 2** 24 credits Prerequisites: BIM 301 (WE) Corequisite: None 24 on-site hours or equivalent	A continuation of Revit 3. We will be developing a full set of Construction Documents using Revit. The class project includes doing a two-story addition to an existing one-story commercial building. 24 hrs.
BIM 303 **BIM Architectural Detailing** 16 credits Prerequisites: BIM 302 (WE)	Architectural Detailing. It is important for professionals to have a clear understanding of the importance of graphic clarity between multi-scale detail drawings which are presented in a single construction document sheet. This class focuses on strengthening these skills and gives the class participants excellent practice in achieving these skills. Course may be

Corequisite: None 16 on-site hours or equivalent	repeated.
BIM 304 **BIM Project Management** 16 credits Prerequisites: BIM 302 (WE) Corequisite: None 8 on-site hours or equivalent	Project Management and Document Coordination. This class ensures that students have the relevant exposure to organizing and managing a Revit (BIM)-generated set of construction documents. This class is relevant for all disciplines in the construction industry. Course may be repeated.
BIM 321 **Revit MEP 1** 24 credits Prerequisites: BIM 201 (WE) Corequisite: None 24 on-site hours or equivalent	The class participant will be designing and developing the appropriate Revit MEP-based models and developing the MEP-based construction documents. In this class, a number of Revit models are provided with the architectural and structural models already in-progress. 24 hrs.
BIM 322 **Revit MEP 2** 24 credits Prerequisites: BIM 321 (WE) Corequisite: None 24 on-site hours or equivalent	This class enhances the lessons learned in Revit MEP 1 – where the class focuses professional applications using Revit MEP software for either (specifically) Mechanical, Electrical or Plumbing applications. In this class, a number of Revit models are provided with the architectural and structural models already in-progress. 16 hrs. May be repeated.
BIM 341 **Revit Structure 1** 24 credits Prerequisites: BIM 201 (WE) Corequisite: None 24 on-site hours or equivalent	The class participant will use Revit Structure to design and develop the appropriate BIM 3D models and develop the Structural Engineering-based construction documents. In this class, architectural Revit models are provided for the class to develop the structural model and CDs, as would occur in practice. 24 hrs.
BIM 342 **Revit Structure 2** 24 credits Prerequisites: BIM 341 (WE) Corequisite: None 24 on-site hours or equivalent	The class continues where Revit Structure 1 left off, expanding on lessons learned to develop the appropriate BIM 3D models and develop the Structural Engineering-based construction documents. In this class, architectural Revit models are provided for the class to develop the structural model and CDs, as would occur in practice. 24 hrs.

BIM 361 **Navisworks 1** 20 credits Prerequisites: BIM 341 (WE) Corequisite: None 20 on-site hours or equivalent	Navisworks 1 is an introductory level course for professional designers, architects, engineers, contractors and others seeking professional advancement and job transition through acquiring 3D and 4D modeling review skills. By the conclusion of this class, participants will be able to use Navisworks tools to: effectively run object-interference checks on 3D models from multiple disciplines, create 4D simulations, interactive animations and photorealistic renderings.
BIM 362 **Navisworks 2** 20 credits Prerequisites: BIM 361 (WE) Corequisite: None 20 on-site hours or equivalent	Navisworks 2, "Best Practices," is a follow-on course for professional designers, architects, engineers, contractors and others seeking professional advancement and job transition through acquiring 3D and 4D modeling review skills. By the conclusion of this class, participants will be able to use Navisworks tools to: create database links, scripts, improved 4D scheduling and improved renderings and 4D construction animations.
BIM 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: BIM 301 (WE) Corequisite: None 4 hours	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for Revit Architecture. Course may be repeated.
BIM 402 **BIM Special Studies** 24 credits Prerequisites: BIM 302 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the Construction Industry using Revit, Revit MEP, Revit Structure and/or Navisworks. 24 onsite hours or equivalent. Course may be repeated.
BIM 403 **BIM Onsite Internship** 24 credits Prerequisites: BIM 302 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. On-site Internship. VDCI/cadteacher has established relationships with architectural, engineering and construction/contracting (AEC) firms. Our students will work with these AEC firms to obtain real-world practical experience. Course may be repeated. 24 hrs.
BIM 404 **Focused Topics** 4 credits Prerequisites: BIM 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.

Digital Arts / Visualization Courses (DAC)

DAC 201 **Introduction to 3ds Max** 24 credits Prerequisites: CAD 101or BIM 101 (WE) Corequisite: None 24 on-site hours or equivalent	This is a hands-on introduction to 3DS Max, on the Windows platform. This course will walk through the steps required to build and render a real world residential project. The skills and talents you develop can be directly applied towards creating environments and props for gaming and other virtual reality projects. As we progress we will learn to make planning decisions about efficient modeling, finally progressing to a 3d model that can be rendered into photorealistic images.
DAC 202 **Intermediate 3ds Max** 24 credits Prerequisites: M&E 201 (WE) Corequisite: None 24 on-site hours or equivalent	3ds Max 2 will continue with the creation of more complex models. We will continue to detail out the residential model from 3ds Max 1, focusing on student interests in specific modeling techniques and environment creation. In addition we will explore custom material building, Global illumination, radiosity lighting, and animation.
DAC 221 **Introduction to SketchUp** 24 credits Prerequisites: CAD 101or BIM 101 (WE) Corequisite: None 24 on-site hours or equivalent	This is a hands-on introduction to Google SketchUp, on the Windows platform. This course will walk through the basics of the software and develop preliminary design models and massing. Through the course we will learn about strategies and techniques to develop speed and efficiency in modeling and presentations.
DAC 222 **Intermediate SketchUp** 24 credits Prerequisites: DAC 221 (WE) Corequisite: None 24 on-site hours or equivalent	The classes are structured to cover strategies and techniques to aid the schematic design and design development phases. We will build several models of detailed portions of buildings throughout the course.
DAC 301 **DAC Animation 1** 24 credits Prerequisites: CAD 201 (WE) Corequisite: None 24 hours	The technical aspects of animation will be addressed including keyframing and inverse kinematics. Students will develop an animation/walk-by/fly-through of an architectural project.
DAC 302 **DAC Animation 2** 24 credits	Advanced technical aspects of animation will be addressed including max scripting, character studio, the scene explorer, texture assignment and editing, skinning, NURBS and radiosity. Students will develop an animation/walk-by/fly-through of an

Prerequisites: DAC 301 (WE) Corequisite: None 24 hours	architectural project.
DAC 303 **Introduction to Autodesk Impression** 16 credits Prerequisites: DAC 302 (WE) Corequisite: None 16 hours	This course focuses on creating presentation-ready images regularly used in the construction industry for submission to regulatory agencies for plan reviews, integrating AutoCAD drawing files.
DAC 304 **Project Management** 16 credits Prerequisites: DAC 302 (WE) Corequisite: None 16 hours	Project Management and Document Coordination. This class ensures that students have the relevant exposure to organizing and managing a visualization / rendering/animation project, including the management of render farms. This class is relevant for all disciplines in the construction industry.
DAC 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: DAC 302 (WE) Corequisite: None 4 hours	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for 3ds Max Design. Course may be repeated.
DAC 402 **DAC Special Studies** 24 credits Prerequisites: DAC 302 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the Digital Arts using 3ds Max, SketchUp, Softimage, MotionBuilder, Mudbox and other Autodesk software for 3D modeling, animation, rendering and compositing. 24 onsite hours or equivalent. Course may be repeated.
DAC 403 **DAC Onsite Internship** 24 credits Prerequisites: DAC 402 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. On-site Internship. VDCI/cadteacher has established relationships with architectural, engineering and construction/contracting (AEC) firms. Our students will work with these AEC firms to obtain real-world practical experience. Course may be repeated.
DAC 404 **Focused Topics** 4 credits Prerequisites: DAC 304 (WE)	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.

Corequisite: None 4 on-site hours or equivalent	

Professional Fundamental Courses (PFC)

PFC 101 **Introduction to Blueprint Reading** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on introduction to Blueprint reading. Understanding how to read a set of construction documents is of primary importance to anyone working on the construction industry. "Blueprint" is the historic name for construction drawings. Contractors would do their work implementing the design and construction processes detailed in the "blueprints." The course will utilize lectures, hands-on demonstrations and lab exercises to familiarize participants with the art of blueprint reading. The course will review a set of both residential and commercial construction documents. At the conclusion of the course, students will be able to make the connections and references between multiple documents contained in a set of blueprint drawings and will be qualified to enroll in the AutoCAD and Revit courses.
PFC 102 **BIM Blueprint Reading** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on introduction to reading construction documents online and manipulating through Navisworks models using the software programs Autodesk Design Review and Navisworks Freedom Viewer. This course is primarily designed to reflect how construction and project managers are reviewing their projects online at the job site.
PFC 301 **Resume Preparation** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on class in resume preparation. In advance of the class, students are asked to prepare a resume. 1:1 time is spent with an industry professional who regularly reads and prioritizes resumes.
PFC 302 **Interviewing Skills** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on “professional interview class.” Participants are asked to present themselves as if they were in a formal interview. The interviews are video recorded and critiqued. Presentation styles, dress, demeanor, etc. are addressed.
PFC 303 **Professional Self-Marketing** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is a hands-on “professional marketing class.” Participants are presented with various options for marketing themselves in order to obtain a new job. Success and failure strategies and examples are presented.

PFC 401 **Certification Test Prep** 4 credits Prerequisites: IDC 201 (WE) Corequisite: None 4 hours	This hands-on and seminar class provides valuable information pertinent to the student passing the appropriate nationally-recognized Certification Test appropriate for project management. Course may be repeated.
PFC 402 **PFC Special Studies** 24 credits Prerequisites: PFC 202 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the project management profession utilizing Autodesk software products for the construction industry. 24 onsite hours or equivalent. Course may be repeated.
PFC 403 **PFC Onsite Internship** 24 credits Prerequisites: PFC 402 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. On-site Internship. VDCI/cadteacher has established relationships with construction industry professionals. Our students will work with these firms to obtain real-world practical experience. Course may be repeated.
PFC 404 **Focused Topics** 4 credits Prerequisites: PFC 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.
PFC 501 **Certificate Completion Practical** 4 credits Prerequisites: None Corequisite: None 4 on-site hours or equivalent	This is four-hour, hands-on “final project” / ”final test” presentation to the instructor to ensure that the student has successfully achieved all of the requirements for their Technology Certificate from the Virtual Design and Construction Institute. This course requires the preparation of a final project, which would take approximately 40 hours to complete. Includes time with the instructor to review, guide, provide direction, grade and evaluate.

Industrial Design Technology Courses (IDT)

IDC 101 **Introduction to Inventor** 24 credits Prerequisites: CAD 101 (WE) Corequisite: None 24 on-site hours or equivalent	This course is designed for, mechanical engineers, detailers, and others involved in industry looking for an overview of designing 3D solid models, and assemblies using Autodesk Inventor software. Students will gain valuable knowledge building a mechanism project from scratch, completing an assembly model, and preparing detailed drawings.
IDC 201 **Intermediate Inventor** 24 credits Prerequisites: IDC 101 (WE) Corequisite: None 24 on-site hours or equivalent	In this course, students explore the more advanced methods of documenting a project in Inventor. The classes will be taught from the engineering manager's perspective, but engineers and detailers can also gain valuable insight as the course unfolds. By the conclusion of this course, students will be able to develop an Assembly model independently and understand how to organize it as an integrated, interoperable manufacturing document set.
IDC 301 **Detailed Assembly Modeling** 24 credits Prerequisites: IDC 201 (WE) Corequisite: None 24 on-site hours or equivalent	In this course, students explore additional, advanced methods of documenting a project in Inventor. Students will be able to develop a very detailed Assembly model independently and understand how to organize it as an integrated, interoperable manufacturing document set.
IDC 302 **Advanced Parts Modeling** 24 credits Prerequisites: CAD 301 (WE) Corequisite: None 24 hours	This course teaches how to maximize the use of the assembling modeling capabilities for mechanical design automation. Topics include top-down assembly modeling, advanced mate techniques, using configurations with assemblies, display states and appearances, assembly editing, layout-based assembly design and large assemblies.
IDC 303 **Advanced Surface Modeling** 24 credits Prerequisites: CAD 302 (WE) Corequisite: None 24 hours	This course focuses on building freeform shapes using mechanical design automation software. Topics discussed include solid-surface hybrid modeling, repairing and editing imported geometry, blends and patches and master modeling techniques.
IDC 304 **Project Management** 16 credits Prerequisites: CAD 302 (WE)	Project Management and Document Coordination. This class ensures that students have the relevant exposure to organizing and managing an IDC-generated set of assembly documents. This class is relevant for all disciplines in the mechanical design profession.

Corequisite: None 16 hours	
IDC 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: IDC 201 (WE) Corequisite: None 4 hours	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for Autodesk Inventor. Course may be repeated.
IDC 402 **IDC Special Studies** 24 credits Prerequisites: IDC 202 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the Industrial Design using Autodesk Inventor, AutoCAD, Autodesk Streamline and other Autodesk Industrial Design software. 24 onsite hours or equivalent. Course may be repeated.
IDC 403 **IDC Onsite Internship** 24 credits Prerequisites: IDC 402 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. On-site Internship. VDCI/cadteacher has established relationships with industrial design and manufacturing firms. Our students will work with these firms to obtain real-world practical experience. Course may be repeated.
IDC 404 **Focused Topics** 4 credits Prerequisites: IDC 304 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.

Sustainable Design Technology Courses (GTC)

GTC 101 **Sustainable Design for Contractors** 4 credits Prerequisites: None Corequisite: None 4 hours	What is GREEN? Getting your building approved for LEED Certification. This course is ideal for General Contractors wishing to learn more about LEED requirements during construction. Attendees will learn about LEED and the benefits of Sustainable Design, as well as the prerequisites and credits they will be typically responsible for. The instructor will provide insight to the documentation requirements, including calculations, specific to the Material & Resources and Indoor Environmental Quality categories.
GTC 102 **Introduction to Sustainable Building Design** 12 credits Prerequisites: None Corequisite: None 12 hours	This project-based course explores computer modeling, using Ecotect to optimize sustainable design (energy efficiency) relevant to architecture, engineering and mechanical systems efficiency. This course will prepare students for the integrated practice of sustainable design and multi-disciplinary collaboration using Autodesk Ecotect Analysis.
GTC 103 **Intermediate Sustainable Building Design** 12 credits Prerequisites: GTC 102 Corequisite: None 12 hours	This project-based course explores computer modeling, using Green Building Studio, providing students the skills to learn how Sustainable Design and BIM technologies work together to optimize energy efficiency during the building design process. Students will learn to integrate the building design practice of computer modeling sustiable design incorporating energy efficiency using Autodesk Green Building Studio.
GTC 201 **Advanced Sustainable Building Design** 12 credits Prerequisites: None Corequisite: None 12 hours	This project-based course integrates sustainable design technologies including CAD, BIM, Energy Analysis and Visualization Programs using Revit, 3dsMax, Ecotect and Green Building Studio. Students will learn to integrate, analyze and present effective sustainable design solutions to optimize energy efficiency in building design using BIM, Sustainable Design Technologies and computer-based Visualization programs.
GTC 202 **Introduction to Energy Analysis** 20 credits Prerequisites: GTC 201 (WE) Corequisite: None	This lab/project-based class teaches approaches to energy management from conceptual designphase through the design process. Integrates the use of Revit and Conceptual Engineering Analysis (CEA) software programs.

20 hours	
GTC 203 **Advanced Energy Analysis** 16 credits Prerequisites: GTC 202 Corequisite: None 16 hours	An interactive lab class using VDC-based software. With faster, more accurate energy analysis of building design proposals, architects and designers can work with sustainability in mind earlier in the process, plan proactively, and build better and more efficient buildings.
GTC 401 **Autodesk Certification Test Prep** 4 credits Prerequisites: GTC 202 (WE) Corequisite: None 4 hours	This hands-on and seminar class provides valuable information pertinent to the student passing the Autodesk Certification Test for Autodesk Sustainable Building Design software. Course may be repeated.
GTC 402 **GTC Special Studies** 24 credits Prerequisites: IDC 202 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. Targeted topics based on current software demand requirements in the Sustainable Design Technology / Energy Efficiency / Construction Industry. May be repeated.
GTC 403 **GTC Onsite Internship** 24 credits Prerequisites: IDC 402 (WE) Corequisite: None 24 on-site hours or equivalent	Special Studies. On-site Internship. VDCI/cadteacher has established relationships with industrial design and manufacturing firms. Our students will work with these firms to obtain real-world practical experience. Course may be repeated.
GTC 404 **Focused Topics** 4 credits Prerequisites: GTC 203 (WE) Corequisite: None 4 on-site hours or equivalent	Customized, seminar, focused-topic classes pertinent at the mid- to high-level of expertise. Based on current software and industry-specific demand requirements in the Construction Industry. May be repeated.