DIGIPEN
INSTITUTE OF TECHNOLOGY

Redmond, Washington

Catalogue for the Academic Year
2000 / 2001

Print Date: October 13, 1999
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Notice

The DigiPen Institute of Technology is authorized by the Washington Higher Education Coordinating Board and meets the requirements and minimum educational standards established for degree–granting institutions under the Degree Authorization Act. This authorization is valid until May 15, 2002, and authorizes The DigiPen Institute of Technology to offer the following degree programs:

Associate of Science in Real Time Interactive Simulation

Baccalaureate of Science in Real Time Interactive Simulation.

Associate of Applied Arts in 3D Computer Animation

Any person desiring information about the requirements of the Act or the applicability of those requirements to the institution may contact the Board office at: P.O. Box 43430, Olympia, WA 98504–3430.

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Important Notices:

*All items including, but not limited to, application forms, transcripts, reference letters, resumes, software, any accompanying documentation or works of art (collectively "the Items"), forwarded to DigiPen by any person (the "Sender"), whether at the request of DigiPen or otherwise, become the exclusive property of DigiPen unless otherwise agreed to in writing by DigiPen, and DigiPen shall be

under no obligation whatsoever to return the Items to the Sender. At DigiPen's discretion, the Items may be destroyed after being reviewed.

*DigiPen Institute of Technology reserves the right to make changes to the curriculums and calendar without any prior notice.

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Important Dates

May 1, 2000	*Summer Session Begins*	
May 29, 2000	*Memorial Day*	*No Classes*
July 4, 2000	*Independence Day*	*No Classes*
July 17–19,2000	*Summer Term Finals*	
July 22, 2000	*Commencement Ceremonies*	
September 1,2000	*Orientation Day–First Year Students*	
September 4, 2000	*Labor Day*	*No Classes*
September 5, 2000	*Classes Begin–Fall Semester*	
October 9, 2000	*Discovery Day (aka Columbus Day)*	
November 11, 2000	*Veterans Day*	*No ClassesNo Classes*
November 23–26, 2000	*Thanksgiving*	*No Classes*
December 11–15, 2000	*Final Exams*	
Dec 18,'00–Jan 2, 2001 Classes	*Winter Holidays*	*No*
January 2–5, 2001	*Intersession*	*No Classes*
January 8, 2001	*SpringSpring Semester Classes Begin*	
January 15, 2001	*M.L. King Day*	*No Classes*
February 3, 2001	*Founder's Day*	*No Classes*
February 19, 2001	*Presidents Day*	*No Classes*
April 13–16, 2001 Classes	*Easter HolidaySpring Break*	*No*
April 157–20, 2001	*Final Exams*	
April 21, 2001	*Commencement*	
May 28, 2001	*Memorial Day*	*No Classes*
April 30, 2001	*Summer Session Classes Begin*	
May 28, 2001	*Memorial Day*	*No Classes*
July 17–21, 2001	*Summer Session Final Exams*	

Deadlines

September 18, 2000	*Last day to add classes for Fall Semester*
September 18, 2000	*Automatic Withdrawal Date from classes missing prerequisites*
September 25, 2000	*Census Date –– no adding, dropping of classes, or changing of grade option beyond this date without a serious and compelling reason approved by the instructor, department chair, and dean of faculty.*
October 15, 2000	*Tuition deposit for Spring Semester due*
November 3October 30, 2000	*Last day to drop classes for Fall Semester. A 'W' will appear on transcript.*
December 15, 2000	*Balance of tuition for Spring Semester due*
January 19, 2001	*Last day to add classes for Spring Semester*
January 19, 2001	*Automatic Withdrawal Date from classes missing prerequisites*
January 26, 2001	*Census Date –– no adding, dropping of classes, or changing of grade option beyond this date without a serious and compelling reason approved by the instructor, department chair, and dean of faculty.*
February XX28, 2001	*Tuition Deposit for Summer Session Due*
March 29, 2001	*Last day to drop classes for Spring Semester. A 'W' will appear on transcript*
April XXMarch 31, 2001	*Balance of Summer Session tuition deposit due*

Name of the School

DigiPen Institute of Technology
Contact Information

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Web: www.digipen.edu
Mission of Institution

The DigiPen Institute of Technology offers its programs of study in order to:

1.   Offer higher education to those who would like to pursue studies and careers in fields of interactive computer technologies, which include graphics and real–time interactive simulation.
2.   Provide highly qualified personnel to the interactive computer industries to sustain their growth and productivity.
Program of Studies Offered

Currently, the Institute offers the following degree programs:
1.   Baccalaureate Degree of Science in Real Time Interactive Simulation.
2.   Associate Degree of Science in Real Time Interactive Simulation.
3.   Associate Degree of Applied Arts in 3D Computer Animation.

Advisory Committee

The final decision of an applicant's enrollment in the above Degree Programs is made by the advisory committee of the program.   The committee decides on the eligibility of each student based on certain criteria, mainly:

* The prerequisites of grade 12, as stipulated in the respective programs
* Reference letters from instructors and supervisors
* Grade transcripts of the last three years of education
* Applicable work experience and/or portfolios

About our Facilities

DigiPen encompasses over 42,000 square feet with a library, lunchroom, and auditorium, dedicated computer labs for each cohort of students, as well as additional classrooms for lectures and instruction. The current student to computer ratio for the 2000–2001 academic year is 1:1. Our maximum class size is 120 students.

Part–Time Studies

Part–time study will be available for the upcoming school year. Please inquire with the Registrar's Office to determine course availability.

Completion of the Program and Passing Semesters
Students must pass each of the required semesters independently to complete the program. Achievement standing for each semester is assigned according to the table below.

Letter	*Grade*	*Interpretation*
A	4.00	Excellent
A–	3.70	
B+	3.30	
B	3.00	Above Average
B–	2.70	
C+	2.30	
C	2.00	Average
C–	1.70	
D	1.00	Pass (Fail for major)
F	0.00	Fail

For the bachelor of science degree and associate of science degree programs, all courses are required for the major except: GEN 300, GEN 350, ENG 300, ENG 350, and all courses offered in the General Education department.
Tuition and Fees

Enrollment APPLICATION Fee
A US$75.00 application fee must accompany the application form. $50.00 of the fee is refundable if the applicant is not accepted to the Institution.

Registration Fee:

Upon acceptance into the Degree Program, a US$100.00 non−refundable registration fee must be paid to confirm enrollment.

Tuition:

	Undergraduate U.S. Resident	Undergraduate Non−U.S. Resident
Cost/Credit	US$ 300.00	US$ 350.00

Students re−registering for a failed course must pay the regular course fees.

Tuition Fee Payment:
Tuition fees are payable upon registration. The payment of tuition and all associated fees is the sole responsibility and obligation of the registering student. Students must be fully paid no later than one (1) week prior to the start of the semester.

Books:
Text and reference books are estimated to be approximately US$500.00 per year. This cost is not included as a part of the tuition.

Parking:
On−campus parking is available for $35.00 a month. Please see the Administration office for details regarding parking applications.

Cancellation and Refund Policies

To be eligible for a tuition refund, a student <u>must submit a written withdrawal request</u> to the Registrar's office. Students who are dismissed due to disciplinary reasons forfeit all rights to a refund of any portion of their tuition fees. However, these students may contest their dismissal. Please refer to the section entitled Grievance and Appeal Process for further information.

Tuition Refund Schedule:

Registration fees are non–refundable.

Students who submit official withdrawal in writing:
- before the beginning of classes are entitled to a tuition refund of all money paid towards tuition for the upcoming semester.
- before the close of the seventh calendar day after the beginning of classes must pay 15% of the semester's tuition. Any portion of tuition paid above this percentage will be refunded.
- before close of the thirtieth calendar day of the semester must pay 50% of the semester's tuition. Any portion of tuition paid above this percentage will be refunded.
- after the thirtieth calendar day of the semester must pay 100% of the semester's tuition.

Termination Date:
The termination date for refund purposes is the last date of actual attendance by the student.

Notice of cancellation or withdrawal must be given by completing the appropriate withdrawal form, whether it is withdrawal from the institution, or from specific classes for which the student is registered.

Refund Policy

Rejection: An applicant rejected by the school is entitled to a refund of all monies paid, minus the stated application fee, not to exceed $25.

Three–Day Cancellation: All monies paid by an applicant are refunded if requested in writing within three days after signing an enrollment agreement and making an initial payment.

Other Cancellation:

An applicant requesting cancellation more than three days after signing an enrollment agreement and making an initial payment, but prior to entering the school, is entitled to a refund of all monies paid minus the registration fee.

Students who have not visited the school facility prior to enrollment will have the opportunity to withdraw without penalty within three days following either attendance at a regularly scheduled orientation or following a tour of the school facilities and equipment.

Refunds for first time students

For students attending the Institute for the first time, the school shall refund unearned tuition, fees and other charges to a student attending the institution for the first time that withdraws or otherwise fails to complete the period of enrollment (semester).

- A pro rata refund of not less than that portion of the tuition, fees and other charges assessed by student by the Institute equal to the portion of the period of enrollment for which the student has been charged that remains on the last day of attendance by the student. The refund shall be rounded downwards to the nearest 10% of that period, less any unpaid charges owed by the student for the period of enrollment for which he/she has been charged, less an administrative fee of $100. For students terminating training after completing over 60% of the semester, the school shall retain the entire price of the semester, including tuition, fees and other charges.
- The 'portion of the semester for which the student has been charged that remains' shall be determined by dividing the total number of weeks comprising the semester in which the student has been charged into the number of weeks remaining in that semester, as of the last recorded day of attendance by the student.

Refund – Subsequent Semesters

a) During the first week of classes the school shall refund 90% of the tuition; thereafter,
b) During the first 25% of the semester, the school shall refund 55% of the tuition; thereafter,
c) During the second 25% of the semester, the school shall refund 30% of tuition.

d) In case of withdrawal after this point, the school may commit the student to the entire obligation.

Special Cases:
In the documented event of prolonged illness or accident, death in the family, or other special circumstances that make it impractical to complete the program, the Institute shall make a settlement that is reasonable and fair to both parties.

Application of Policy
Any monies due the student shall be refunded within 60 days from the last date of student attendance or within 60 days from the date of receipt of payment in the event that the date of such receipt is after the student's last date of attendance.

If a student's financial obligation is not fulfilled, the Institute is authorized to do the following until the owed monies are paid:

- withhold the release of the student's academic records or any information based upon the records.
- withhold the issue of the student's transcripts.

If the student's account remains delinquent, the Institute reserves the right to cancel the student's registration. Late tuition payments are subject to an interest charge of one percent per month or twelve percent per annum.

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights are:

The right to inspect and review the student's education records within 45 days of the day the University receives a request for access. Students should submit to the registrar, dean, or head of the academic department [or appropriate official] written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

The right to request the amendment of the student's education records that the student believes is inaccurate or misleading. Students may ask the University to amend a record that they believe is inaccurate or misleading. They should write the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is defined as a person employed by the University in an administrative, supervisory, academic, or support staff position (including law enforcement unit and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

Upon request, the Institute discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, DC 20202–4605

Release of Student Directory Information

The Family Educational Rights and Privacy Act (FERPA) of 1974 protects the privacy of your education records. However, the following information is considered public or directory information and may be released to anyone unless you inform the Office of the Registrar that you do not wish any information released:

- name
- telephone number
- e–mail address
- major field of studies
- dates of attendance
- degrees and awards received
- full or part–time enrollment status
- educational institutions attended

NO to Release of Information

If you do not wish to authorize directory release and do not want your directory information to appear in any published or electronic Student Directory, you may restrict access through the Administration Office. No information will be released on students or to students, who have restricted release of directory information, including degrees awarded and dates of attendance.

Change from NO to YES

If you restricted release of directory information and now wish to change your authorization and allow release, you must go to the Administration Office, present photo identification and a completed release/restrict of directory authorization form.

Standards of Progress

Grading System

The following grading system is in use, and, except where otherwise specified, applies both to examinations and to term work. The weight of a final examination grade is a matter individually determined by each instructor. See Grade Point Average section following for additional information.

A+ – Excellent = 4.3 quality points
A – Excellent = 4.0 quality points
A– – Excellent = 3.7 quality points
B+ – Good = 3.3 quality points
B – Good = 3.0 quality points
B– – Good = 2.7 quality points
C+ – Fair = 2.3 quality points
C – Fair = 2.0 quality points
C– – Fair = 1.7 quality points
D+ – Poor = 1.3 quality points
D – Poor = 1.0 quality points, lowest pass grade, failing grade for major
D– – Poor, lowest passing grade = 0.7 quality points
F – Failure = 0 quality points

For degree programs offered at DigiPen Institute of Technology, all courses are considered part of the student's major except: GEN 300, GEN 350, ENG 300, ENG 350, and all courses offered by the General Education department.

Grade A – A distinguished grade for superior work
1. You mastered the content and objectives of the course, can apply what you learned to new situations and can relate it to other knowledge.
2. You consistently distinguish yourself in examinations, reports, projects, class participation and laboratory or training situations.
3. You show independent thinking in assignments and class discussion.
4. Your work is consistently in proper form, shows satisfactory evidence of careful research (where required) and is submitted punctually.
5. Where achievement in the course involves development of analytical skills, you consistently demonstrate superior skills, ability and performance.
6. You complied with the instructor's attendance requirements.

Grade B – A better–than–acceptable grade
1. You consistently show mastery of the course content and objectives and usually apply what you learned to new situations or related it to other knowledge.
2. Your work is in proper form, shows satisfactory evidence of research (where required) and is submitted punctually.
3. Where achievement in the course involves development of analytical skills, you consistently demonstrate above average skills, ability and performance.
4. You complied with the instructor's attendance requirements.

Grade C – *An acceptable grade permitting progress forward in course sequence*
> *1. You show evidence of a reasonable comprehension of the subject matter of the course and have an average mastery of the content sufficient to indicate success in the next course in the same field.*
> *2. You consistently make average scores in examinations, reports, projects, class participation and laboratory or training situations.*
> *3. If the subject carries transfer credit, your work indicates sufficient competence in the content to continue in the subject field upon transfer.*
> *4. Your complete your assignments in good form and on time.*
> *5. Where achievement in the course involves development of analytical skills, you consistently demonstrate average skills, ability and performance.*
> *6. You complied with the instructor's attendance requirements.*

Grade D – *A less–than–acceptable, passing grade, failing grade for core courses in your major.*
> *1. You fall below the average in examinations, projects, reports, class participation and laboratory or training situations, but show some competence in the assigned subject matter of the course.*
> *2. The competence demonstrated is insufficient to indicate success in the next course in the subject field.*
> *3. Assignments are completed in imperfect form, are sometimes late, or of inconsistent quality.*
> *4. Where achievement in the course involves development of analytical skills, you consistently demonstrate below–average skills, ability and performance.*
> *5. You complied with the instructor's attendance requirements.*

Grade F – *A failing grade*
> *1. With respect to examinations, projects, reports, class participation and laboratory or training situations, you fail to perform at the "D" grade level.*
> *2. You show little or no competence in the assigned subject matter of the course.*
> *3. Where achievement in the course involves development of analytical skill, you fail to perform at the "D" or above grade level.*
> *4. You did not comply with the instructor's attendance requirements.*

AU – Audit. Indicates course was attended without expectation of credit or grade.

I – Incomplete = 0 quality points –

The Incomplete is intended for use when circumstances *beyond a student's control* prohibit taking the final exam or completing course work. The Incomplete is *not* intended as a mechanism for allowing a student to retake a course. A student who has fallen substantially behind and needs to repeat a course can drop the course prior to the end of the ninth week8th week of classes. Otherwise, the instructor should assign the appropriate final grade (D , F or DNAor F, for example).

An Incomplete may not be used simply to allow a bit more time for an undergraduate student who has fallen behind for no good reason. An (I) may be granted *only* to students who have a legitimate excuse. Examples of

unacceptable reasons for approving an Incomplete include the need to rewrite a paper; the demands of a time−consuming job; the desire to leave town for a vacation or family gathering; the desire to do well on tests in other courses; and the like.

The (I) Indicates one of the following three possibilities:
1. Some work remains to be completed to gain academic credit for the course. An (I) is assigned in the first instance at the discretion of the instructor. This assignment shall not be automatic but shall be based upon an evaluation of the student's work completed up to that point and an assessment of the student's ability to complete course requirements within the allowed time limit. Work to remove an (I) must be performed within the 12 months following the last day of the semester in which the (I) is incurred or earlier if the instructor so requires. When such work is completed, the instructor will assign a final grade for the course.
2. The student has failed to complete unfulfilled academic assignments within the specified 12 months, and the grade of (I) has been entered on the student's permanent transcript. No further opportunity to complete the course will be available to the student after this time.
3. Work not completed because of documented illness or other "emergency" occurring after the twelftheighth week of the semester.

Registrar's Note: Recommended Ddefinition of "emergency:" "*A situation or event which could not be foreseen and which is beyond the student's control and which prevents the student from taking the final examination or completing other work during the final examination period." Also note that as previously defined, a student may not request an (I) before the end of the twelftheighth week; the rationale is that the student still has the option to drop the course until the end of the twelftheighth week. The grade IN(I) exists so there is some remedy for illness or emergencies that occur* **after** *the drop deadline.*

Arrangements for the grade of (I) and its completion must be initiated by the student and agreed to by the instructor prior to the final examination. An Assignment of Final Grade for Completion of an Incomplete (I) Form must be completed each time a grade of (I) is assigned. On the form, the instructor will specify to the student and the department the work remaining to be done, the procedures for its completion, the grade in the course to date, and the weight to be assigned to work remaining to be done when the final grade is computed.

If make−up work requires classroom or laboratory attendance in a subsequent term, the students should not register for the course again; instead, the student must audit the course and pay audit fees (refer to special fees and charges in the Expenses section of the catalog). If the make−up work does not require classroom or laboratory attendance, the instructor and student should decide on an appropriate plan and deadline for completing the course.

When the course is completed, the instructor will submit a change of grade to the registrar's office. These procedures cannot be used to repeat a course for a different grade. (An I grade should not be assigned to a student who never attended class; instead, instructors may assign a failing grade.)

DNA – Did Not Attend. Indicates non–attendance in a course for which a student had previously registered but not officially dropped. (0 quality points).

W – Withdrawal. Indicates withdrawal from the course before the end of the eighth week of classes, after the first half of the semester, or withdrawal from the iInstitute after the twelfth week of classes. The grade of W will not be assigned to any student who has taken the final examination in the course. (0 quality points). **An instructor may not withdraw a student from a course.**

S – Satisfactory. Given only in non–credit courses. (0 quality points).

U – Unsatisfactory. Given only in non–credit courses. (0 quality points).

AW – Administrative Withdrawal. Attended one or more class sessions, but too few to be appropriately evaluated or to receive an "I" gradeDid not attend 3 consecutive class sessions, and did not provide a documented reason for missing the class sessions.

P– Pass. Given for internship courses and to students who successfully challenge classes for credit or waiver.

Grade Reports

Reports of the final grade in each subject will be mailed to the student soon after the close of each semester.
Grade reports are withheld from students who have delinquent accounts with the BusinessAdministration Office, Security, or Library.

Grade Point Average

The academic standing of each student is determined on the basis of the Grade Point Average earned each semester. The Grade Point Average (GPA) is determined by using the quality points assigned to each student's grade.
The quality point value for each grade earned during a semester is multiplied by the number of credit hours assigned to that course as listed elsewhere in this catalog. The sum of these points is the total number of quality points earned during the semester. This sum is divided by the number of credit hours attempted (hours from courses with grades of A through F) to obtain the grade point average.

The cumulative Grade Point Average is obtained by calculating the Grade Point Average for all courses attempted at the Institute of New HavenDigiPen Institute of Technology. Course grades of DNA, W, and (I) are non–punitive grades. They are not calculated in the overall GPA since they carry no quality points.

The following example will help you calculate your grade point average:

Course	Credits	Grade	Points
CS 100	3	A	12 (3 x 4)
Computer Environment			
MAT 100	4	A	16 (4 x 4)
Algebra and Trigonometry			
CIS 115	3	B	9 (3 x 3)
Intro. To Computing			
ENG 110	3	D	3 (3 x 1)
English Comp.			
CS 120	3	B	9 (3 x 3)
High Level Programming			
TOTALS	**16**		**49**

Total grade points divided by total credits equals the cumulative grade point average. Therefore, the grade point average for the above example is 49 divided by 16 for a 3.06 GPA.

Satisfactory Progress

For students matriculated in the bachelor's degree program, sSatisfactory progress toward a degree by a full time student is defined as **successful completion** of 28 credits during an academic year. This should include registration for at least 14 credits per semester and successful completion of at least 14 credits per semester. "Completion" is defined as the receipt of a final letter grade (A to F) but not the receipt of a Withdrawal (W) or an Incomplete (I). "Successful completion" is defined as the receipt of a passing letter grade (A to C) in the major and (A to D) in non–major courses. The Registrar makes decisions on student status.

Students are required to maintain a **minimum cumulative** grade point average in accordance with the following scale:

Grade Point Average of 1.50 for 3 to 34 credit hours attempted
Grade Point Average of 1.60 for 35 to 49 credit hours attempted
Grade Point Average of 1.70 for 50 to 64 credit hours attempted
Grade Point Average of 1.80 for 65 to 79 credit hours attempted

Grade Point Average of 1.90 for 80 to 94 credit hours attempted
Grade Point Average of 2.00 for 95 or more credit hours attempted

Appeals involving extenuating circumstances may be addressed to the Dean of Faculty for resolution by an appropriate faculty committee.

Grade Changes

The faculty person who administered the grade makes grade changes. In cases where the faculty is not available to consider a grade change, the department chair in consultation with the Dean of Faculty may make such change. Grade appeals go to the department chair responsible for the course, then to the Dean of Ffaculty.

Supplementary Exams

The purpose of a supplemental exam is to allow failed students an opportunity to show that they have acquired the knowledge presented in the failed class. This is to give the students an opportunity to continue with their program of study without undue interruption as a result of the time lag involved in scheduling classes from one semester to the next.

Supplemental exams may be written by students who have a final grade of D in any given core course, up to two courses per semester. If a student has a D in 3 or more core courses in any given semester, he/she will be required to retake the failed courses. Supplemental exams are scheduled only during the first week of the Fall and Spring Semesters. No other exam dates will be given for supplemental exams. A supplemental exam will test the student's knowledge of the total body of the course. In order to pass the supplementary exam for any given course, a passing grade of C– must be achieved. The final grade listed on the students transcript for the course will be no higher than C–.

If a student does not pass the supplemental exam for any course, he/she will be automatically withdrawn from any currently enrolled course for which the failed course is a prerequisite. The student will then be given the opportunity to re–enroll for the failed course when it is next offered.

Repeating Courses

A student may repeat any course in which he/she has not received a passing grade (Passing grade is A to C– in a core course, A to D in a non–core course), as long as the student is in good standing with the school and eligible to continue his/her studies.

Graduation Requirements

Degrees and certificates will be granted during the semester in which the final requirements are completed. For example, if you receive an (I) in a course required for graduation in your final semester, you will not graduate until the semester in which the (I) is replaced by a letter grade. During that semester, you must reapply for graduation.

A program of study must be completed within a reasonable period of time to be eligible for graduation; that is, the credit hours attempted cannot exceed 1.5 times the credit hours required to complete the program.

Withdrawing from School and the W Grade

A student may withdraw from the institute before the end of the nintheighth week of instruction of a semester.
1. If a student withdraws before the end of the fourththird week of instruction, no course entries will appear on the student's transcript for that quarter.
2. If a student withdraws after the end of the fourththird week of instruction and before the end of the nintheighth week of instruction, the registrar will assign a final grade of W to the student for each course in which the student was enrolled at the beginning of the fifthfourth week of instruction.
3. Each student will receive a final grade for each course in which the student was enrolled at the end of the twelfthtenth week of instruction of the semester.

Dean's Honor List Requirements

The Dean's Honor List, prepared at the end of the fall and spring semester, officially recognizes and commends students whose grades for the semester indicate distinguished academic accomplishment. Both the quality and the quantity of work done are considered.

You must meet the following qualifications to be a recipient of this honor (no Dean's Honor List certificates are awarded for courses taken during the Summer Session):
- You must be matriculated.
- You must be registered in credit–bearing courses.
- Full–time students must complete 12 or more credits in one semester.
- Part–time students must complete 12 or more credits in two consecutive semesters.

- Only passing earned grades (A, B, C and D) in credit–bearing courses are counted for eligibility.

Minimum GPA Required:
12 Credits	–––	3.75 or higher
13 or 14 credits	–––	3.65 or higher
15 or 16 credits	–––	3.55 or higher
17 or more credits	–––	3.45 or higher

- No failing grades, a grade of F in any course makes the student ineligible, regardless of other grades.
- Any courses that do not count towards the degree are excluded
- AP, Internship and Independent Study credits are excluded
- Pass/Fail credits are NOT to be counted when calculating qualifying credits
- **Incomplete grades will be evaluated <u>after</u> the Incomplete grade is made up. The student must have qualified for the Dean's Honor List before and after the Incomplete grade was made up.**

The student's cumulative grade–point average is not considered; only the grade–point average for that particular semester is relative.

Students will be appointed to an official Deans Honor List at the end of a semester in which they complete a minimum of 12 graded credits with the appropriate grade point average.

The Dean's Honor List will be displayed in the lobby of DigiPen Institute of Technology after each fall and spring semester. If you meet these requirements, you will also receive a congratulatory letter from the Dean.

Reason(s) why your name might not have been listed:
 a) Fewer than twelve graded credits
 b) Grade change(s) or late grade(s) submitted
 c) Change of major (check listings under your previous major)
 d) "Privacy Request"
 e) No local address on file

 If you believe you fulfilled the criteria indicated above, please stop in at the Registrar's Office to fill out a special form requesting a review of your semester grades. No action can be taken without this form. Assuming you qualify, you will receive a confirming letter. If you did not qualify, you will be informed of this fact, with the reason(s) indicated.

Grading Policy

Letter	Grade	Interpretation
A	4.00	Excellent
A–	3.70	
B+	3.30	
B	3.00	Above Average
B–	2.70	
C+	2.30	
C	2.00	Average
C–	1.70	
D	1.00	Pass (Fail for major)
F	0.00	Fail

Grievance and Appeal Process

Academic Standing
Students who would like to file an appeal against a decision regarding their academic standing in a particular course should discuss the matter with their instructor. If a satisfactory resolution is unattainable, the student may file an appeal with the Head of the Department. If the resultant solution is still unsatisfactory, then the student may file an appeal with the Chief Executive OfficerDean of the Institute.

Students may appeal grades and review exams no later than two weeks after their announcement by the instructor. Appeals may not be made after transcripts are issued.

The administration reserves the right to destroy any examination papers after the two week appeal period. However, academic records will be kept indefinitely.

Appeal for Refund of Tuition
Students who would like to file an appeal against a decision regarding their tuition refund shall file a written request to the Registrar. If the student is not satisfied with the decision of the Registrar, a second appeal may be filed with the Chief Executive Operating Officer. If the student is still unsatisfied with the decision, the student may appeal to the executive director of the Higher Education Coordinating Board of the State of Washington.

Academic Ineligibility

Students with a combined cumulative GPA Between .01 and .50 below the minimum GPA required for the number of credit hours attempted to ate must

meet with their academic advisor to develop an academic plan for the following semester. These students will be placed on 'Academic Probation' for the following semester, and must improve their cumulative GPA to at least the minimum GPA required for satisfactory progress.between

Failure to improve his/her GPA during the period of Academic Probation will result in the de–registration of the student for a period of one year. The student may re–apply to the Institute after the one–year suspension period has ended. The Institute will thoroughly review this application and make the final decision on acceptance. All application must meet the Institute's entrance requirements applicable at the time of re–registration. Students may appeal this suspension by making application to the Academic Review Committee.

Students with a cumulative GPA too low to be eligible for Academic Probation {see above} become academically ineligible to continue with their courses, and cannot re–register for a period of one year. The student may re–apply to the Institute after the one–year suspension period has ended. The institute will thoroughly review this application and make the final decision on acceptance. All applications must meet the Institute's entrance requirements applicable at the time of re–registration.

Attendance

In order to remain in the program of study, students must maintain an overall average of 2.00 or highermeet the minimum acceptable cumulative GPA, as described in this publication, and a minimum of 70% attendance record at any given evaluation period. Students must also abide by the rules and regulations set forth by the Institute. Students more than 15 minutes late to class will be marked as absent.

Exams

All students are required to be in attendance at the times scheduled by DigiPen for final exams. Instructors will not make arrangements for individuals to write final exams at a different time than the rest of the class. Should a student miss an exam, it is the student's responsibility to notify the instructor and Administration within 24 hours of the missed exam.

Should a student miss a final exam, the individual circumstances shall be reviewed by Administration. Only medical reasons accompanied by a doctor's note will be considered acceptable reasons for missing exams. Exam retakes shall be allowed at the sole discretion of the Administration and Department Chair.

Retake exams shall be different than the one taken by the students at the original exam, and the timing of the retake exam shall be at the sole discretion of the individual instructors. In all cases, the retakes shall be administered no later than 1 week after the original missed exam.

Leaves and Absences

Absences (less than one week)
Students absent for less than one week must present a <u>written</u> excuse for their absence to the Registrar. Only medical related absences, accompanied by a note from a board certified physician, are accepted without extensive review.

If the reasons for the absence are not acceptable to the Chief Executive Officer, the student will be notified and their attendance records will be updated accordingly.

In all cases, it is the student's responsibility to make up work missed due to an absence.

Leaves (absences longer than one week)

Leaves longer than one week must be approved by the Chief Executive OfficerRegistrar. They must be requested in writing four weeks prior to the start date of the leave. In case of catastrophic situations, the Institute must be notified as soon as possible.

Leaves without approval may result in the termination of student status.

In all cases, it is the student's responsibility to make up missed work. Extensive leaves may result in the repetition of an entire semester, for which the student will be charged full tuition.

Description of the Library Facilities and Internet Access

Library Facilities
The library has 3–5 copies of every recommended textbook for each class offered. In addition, students will have access to a variety of reference books relevant to their program of study. The library also subscribes to a selection of major journals and magazines related to the fields of gaming, simulation and animation. Furthermore, a yearly budget of $10,000.00 is allocated for updating the contents of the library.

The 1600 square foot Library currently holds over 300 books, subscriptions to over 25 different magazines, more than 74 console and computer games as well as over 300 networked computers. Students also have access to ACM publications online, as well as online access to the Microsoft Developer's Network library.

Internet Access

Internet Access is a regulated service. It is provided to the student free of charge. Students may lose this privilege if they do not abide by the Internet Access rules and regulations. For further information, please refer to the section entitled, "Rules and Regulations".

Waiver, Credit, & Advanced Placement examinations, CLEP and other credit

Students who can demonstrate that their knowledge and skills are equivalent to those gained by courses offered at DigiPen Institute of Technology –– whether they were gained by formal education, exam, work experience, or life experience –– may apply for academic credit or course waivers. Credit may be granted through other means: Advanced Placement (AP) Exam scores, International Baccalaureate courses, or College–Level Examination Program (CLEP) subject exam scores and transfer credit from other post–secondary institutions. A maximum of 9 credits per semester may be earned by these means.

Course Waiver Examinations

A student may meet an academic requirement, within specified limits, by passing a waiver examination at least equal in scope and difficulty to a final examination in a course. Successful completion of the examination waives the curricular requirement, but does not result in credit earned. Thus, it does not reduce the total number of semester hours required for a degree, but will increase the available number of elective hours. The department in which the course is offered administers the waiver examination. Waiver examinations must be taken prior to the final semester of residence and may not be repeated.

Students have the opportunity to waive designated core courses by demonstrating mastery of the material in one of two ways:

> 1. A waiver petition to the respective department, indicating prior academic coursework and relevant work experience in the subject area; or

> 2. Performance on a placement exam offered by the respective department at the beginning of each Fall term; or

Waiving a core course enables the student to substitute an elective for a required course. Waivers do not earn course credits.

To petition to waive a core course, the student must complete a waiver request form for each course, attach a transcript or photocopy of transcript, with relevant coursework highlighted, to each waiver request and submit your requests to the Registrar. Copies of the waiver request form are available from the Registrar. Each department will designate the courses for which a waiver exam or credit exam will be offered.

For waiver requests received by July 1, students will receive notification by August 1. Waiver requests arriving in the Registrar's Office after July 1 will be handled on a rolling basis, at faculty convenience. Because of faculty schedules, results of waiver requests received after the deadline are not guaranteed to be available before the start of Fall Term classes.

It is not possible to predict the results of faculty review of core course waiver requests. Core courses generally include intermediate level material so a student who has completed only introductory work in a subject is not likely to be granted a waiver. Faculty take many factors into consideration, including the academic caliber of the school where the course was taken, the difficulty of the text, the grade received and the time elapsed since completion of the course.

The following restrictions apply to all waiver examinations.
- A student must have an approved examination application on file in the Registrars Office before credit by examination can be recorded on the permanent record.

- A student must be currently enrolled before credit by examination can be recorded on the permanent record.

- Credit by examination may be earned only if a student has not already earned credit in a similar course.

- A maximum of 15 semester hours by examination may be counted toward a baccalaureate degree and a maximum of 9 semester hours may be counted toward an associate degree excluding validation examinations.

- Examinations may not be repeated.

- Repeat course work and F grades are not open to credit by examination.

- Students may not take challenge or waiver examinations on courses they have audited.

- Examinations must be taken prior to the close of the seventh calendar day after the beginning of classes.

Advanced Placement Examination

Waiver examinations may be taken by successful completion of an Advanced Placement examination. These tests are graded on a scale of 1 to 5.

- Computer Science

  - English
  - Mathematics

Credit or course waivers may be granted for satisfactory attainment on Advanced Placement Exams of the College Entrance Examination Board. An exam score of four or above earns from 3 to 8 hours of credit toward courses in comparable subjects or a waiver of these courses. No grades will be assigned to the courses, nor will they be figured into a student's grade point average. Hours granted or courses waived are entered on students' transcripts, but no grades or quality points are awarded. Official results must be sent to the Registrar for analysis before credit or course waivers are granted.

The examinations and the courses for which waiver is granted are listed below. Credit granted for a specific course counts toward the satisfaction of any requirement toward which the listed course counts.

AP Exam	Score	DIT	Credit
Art–Drawing Portfolio	4		1
Art–History of Art	4		1
English–Comp.	4		1
English–Creative Writing	4		1
English–Literature	4		1
Mathematics–Calculus AB	4		1
Mathematics–Calculus BC	4		2
Physics–Physics	4		1

International Baccalaureate

In general, three (3) semester credits hours are waived for each Higher Level subject in which a score of 5 or higher is earned.

The IB courses and scores listed below are eligible for waiver at DigiPen Institute of Technology.

Course and Level	Score
Computer Science – HL	5,6,7
English (A1 & A2) – HL	5,6,7
Mathematics – HL	5,6,7
Philosophy – HL	5,6,7
Psychology – HL	
Social Anthropology – HL	5,6,7
Theatre Arts – HL	5,6,7

College Level Examination Program (CLEP)

There are two types of CLEP examinations, General and Subject. DigiPen Institute of Technology grants credit for Subject Examinations **only.** The tests are administered by appointment. Candidates should consult with the Registrar for application forms and other specific information including fees. These tests may not be repeated. Examination must be taken prior to the student's completion of a total of 40 hours of college credit.

CLEP offers a number of subject–matter examinations. Students obtaining the percentiles established by the mathematics, computer science and general education departments will receive credit toward that basic requirement. Students wishing credit in courses other than those listed above should consult the appropriate departmental chair.

Credit or course waivers may be granted for satisfactory attainment on Subject Examinations of the College–Level Examination Program (CLEP) of the College Entrance Examination Board. These tests may be taken at any of a number of test sites and the responsibility for scheduling such examinations is the student's. Credit will be given only in those areas in which comparable courses are offered at DIT. For further details and information concerning test centers, and dates, students should check with the College Board at www.collegeboard.org. Hours granted or courses waived are entered on students' transcripts, but no grades or quality points are awarded. Official results

must be sent to the Registrar for analysis before credit or course waivers are granted.

DigiPen Institute of Technology will grant credit to students who pass the CLEP Subject Examinations approved by the department appropriate to the examination. The score necessary to receive credit through a Subject Examination will be the mean score achieved by "C" students in the national norms sample. The number of course credits to be given for passing a Subject Examination will be determined by the appropriate department.

Transfer Credit

Credit earned by examination at other colleges or universities may be transferred provided such credit meets the guidelines used by DigiPen Institute of Technology.

College credits earned elsewhere will be evaluated by the Registrar with respect to curricular requirements at DigiPen Institute of Technology. Transfer credit is granted for academic classes appearing on official transcripts of post–secondary institutions in which students earn a grade of "B" or better. Transfer credit is not granted for developmental classes, orientation classes, or for classes in which a student receives a "Pass". Current DIT students are advised to confer with the Registrar prior to enrolling in course work at other institutions if they intend that the credit be applied toward graduation from DIT. Class standing of transfer students will be based on the number of credits accepted for transfer. Hours earned and courses waived are entered on students' transcripts, but no grades or quality points are awarded.

Transfer credit may be accepted subject to the following conditions and restrictions.

- The course(s) offered for transfer must be taken at an accredited institution.
- The course(s) must be comparable in academic quality to DIT courses; transfer credit will be denied for courses not meeting this standard. Accordingly, current students are strongly urged to seek transfer approval from their advisor and the Registrar using the form provided for this purpose prior to enrollment in any course for which transfer approval might be sought.
- Transfer credit will be considered for courses in which the grade of "B" or better is recorded.
- Courses transferred to the students major may also require a validation examination in order to be accepted.
- Credit or Pass grades will not be accepted in transfer.

If a course is accepted for credit, it will be counted as "transfer credit". No grade points from such transfer courses will be calculated in the DigiPen Institute of Technology grade point average. However, grades transferred for courses taken in residence at institutions for which DigiPen Institute of Technology has direct, formal institutional exchange agreements are exempt from this policy, and will be recorded. Courses transferred in may not be used to substitute improved grades for grades earned at DigiPen Institute of Technology.

Validation Examinations and Course Challenges

Students who have transcripts from nonaccredited colleges and/or transcripts showing nontransferable college courses may request to take validation examinations in courses which are comparable to those offered by DigiPen Institute of Technology. Upon successful completion of the examination(s), the student will be given credit as specified.

Departments may designate as challenge courses certain courses involving primarily substantive materials or technical proficiencies. A student at the appropriate level of classification may, with the approval of the department chair, challenge the course by taking an examination. If the student makes a satisfactory grade on the examination, full credit for the course will be given. Students challenging courses for which they are not registered will pay a fee of $50 per credit hour.

A challenge examination is a college–prepared or a standardized examination that, if successfully completed, will yield regular college credit. The student must take the examination before enrolling for further study in their program. The challenge examination may not be repeated and must be taken prior to the final semester of residence.

Costs of Posting Credit/Course Waivers
DigiPen Institute of Technology does not charge a fee to evaluate the first 24 credits considered for transfer. DigiPen Institute of Technology charges a fee of $25.00 per credit hour for processing credit waivers, and any transfer credits beyond the first 24.
WAIVER, CREDIT, & ADVANCED PLACEMENT EXAMINATIONS, CLEP AND OTHER CREDIT

Students who can demonstrate that their knowledge and skills are equivalent to those gained by courses offered at DigiPen Institute of Technology –– whether

they were gained by formal education, exam, work experience, or life experience –– may apply for academic credit or course waivers. Credit may be granted through other means: Advanced Placement (AP) Exam scores, International Baccalaureate courses, or College–Level Examination Program (CLEP) subject exam scores and transfer credit from other post–secondary institutions.

COURSE WAIVER EXAMINATIONS

A student may meet an academic requirement, within specified limits, by passing a waiver examination at least equal in scope and difficulty to a final examination in a course. Successful completion of the examination waives the curricular requirement, but does not result in credit earned. Thus, it does not reduce the total number of semester hours required for a degree, but will increase the available number of elective hours. The department in which the course is offered administers the waiver examination. Waiver examinations must be taken prior to the final semester of residence and may not be repeated.

Students have the opportunity to waive designated core courses by demonstrating mastery of the material in one of three ways:
    1. A waiver petition to the respective department, indicating prior academic coursework and relevant work experience in the subject area; or
    2. Performance on a placement exam offered by the respective department at the beginning of each Fall term; or
    3. Successful completion of a core course at DigiPen Institute of Technology within two years prior to entering the bachelors program. The minimum course grade must have been "C".

Waiving a core course enables the student to substitute an elective for a required course. Waivers do not earn course credits.

To petition to waive a core course, the student must complete a waiver request form for each course, attach a transcript or photocopy of transcript, with relevant coursework highlighted, to each waiver request and submit your requests to the Registrar. Copies of the waiver request form are available from the Registrar. Each department will designate the courses for which a waiver exam or credit exam will be offered.

For waiver requests received by July 1, students will receive notification by August 1. Waiver requests arriving in the Registrar's Office after July 1 will be handled on a rolling basis, at faculty convenience. Because of faculty schedules, results of waiver requests received after the deadline are not guaranteed to be available before the start of Fall Term classes.

It is not possible to predict the results of faculty review of core course waiver requests. Core courses generally include intermediate level material so a student who has completed only introductory work in a subject is not likely to be granted a waiver. Faculty take many factors into consideration, including the academic caliber of the school where the course was taken, the difficulty of the text, the grade received and the time elapsed since completion of the course. A listing of core course descriptions and minimum requirements for waivers is listed below.

Students whose waiver requests are not approved may try again to waive the course by sitting for the placement exam in that subject, if one is offered. If a waiver request is granted, you may still elect to take the course.

CREDIT BY EXAMINATION

DigiPen Institute of Technology recognizes that students who have independently achieved college–level proficiency on the basis of work experience and study may receive credit for what they already know by challenging, validating, or waiving comparable classes offered by the Institute. (Certain classes may not be challenged.)

A student may receive course credit if he or she takes an examination administered by a department or completes the course during a normal term and achieves a passing score. The department determines the examinations and the courses for which credit is granted. Credit will be added to the student's permanent academic records only upon official notification from the appropriate department to the Office of the Registrar.

The following restrictions apply to all credit earned by examination.
A student must have an approved examination application on file in the Registrars Office before credit by examination can be recorded on the permanent record.

- A student must be currently enrolled before credit by examination can be recorded on the permanent record.

- Credit by examination may be earned only if a student has not already earned credit in a similar course.

- A maximum of 15 semester hours by examination may be counted toward a baccalaureate degree and a maximum of 9 semester hours may be counted toward an associate degree excluding validation examinations.

- Grades are issued as on normal test scores, and all grades are recorded on the permanent record of the student.

- Examinations may not be repeated.

- Repeat course work and F grades are not open to credit by examination.

- Students may not take challenge or waiver examinations on courses they have audited.

- Examinations must be taken prior to the last 5 weeks of any semester.

ADVANCED PLACEMENT EXAMINATION

Regular college credit may be established by successful completion of an Advanced Placement examination. These tests are graded on a scale of 1 to 5.
Computer Science
English
Mathematics

Credit or course waivers may be granted for satisfactory attainment on Advanced Placement Exams of the College Entrance Examination Board. An exam score of four or above earns from 3 to 8 hours of credit toward courses in comparable subjects or a waiver of these courses. No grades will be assigned to the courses, nor will they be figured into a student's grade point average. There are no restrictions on how much AP credit may be applied toward the college degree. Hours granted or courses waived are entered on students' transcripts, but no grades or quality points are awarded. Official results must be sent to the Registrar for analysis before credit or course waivers are granted.

Credit for a maximum of six courses may be earned through A.P. examinations. The examinations and the courses for which credit is granted are listed below. Credit granted for a specific course counts toward the satisfaction of any requirement toward which the listed course counts.

INTERNATIONAL BACCALAUREATE

DigiPen Institute of Technology encourages and applauds students who have chosen International Baccalaureate (IB) courses as part of their high school curriculum. These courses, as well as honors courses, are challenging and demanding, and we believe they provide excellent preparation for university study.

The easiest way to ensure that DigiPen Institute of Technology receives your IB scores is to name DIT as a recipient when you sign up for exam(s). You can use this procedure even if you take the exam as a junior in high school; DigiPen Institute of Technology will keep your scores until your senior year. If you do not name DIT as a recipient when you take your exam, just contact the Educational Testing Service (ETS) and request that scores be sent to the Registrar at DigiPen Institute of Technology. If you are admitted to DIT, Admissions will inform you in late July of the credits you were awarded for IB score.

In general, three (3) semester credits hours are granted for each Higher Level subject in which a score of 5 or higher is earned.

The following IB courses and scores are eligible for credit at DigiPen Institute of Technology.

Course and Level	Score
Computer Science – HL	5,6,7
English (A1 & A2) – HL	5
	6,7
Mathematics – HL	5,6,7
Philosophy – HL	5,6,7
Psychology – HL	
Social Anthropology – HL	5,6,7
Theatre Arts – HL	5,6,7

COLLEGE–LEVEL EXAMINATION PROGRAM (CLEP)

There are two types of CLEP examinations, General and Subject. DigiPen Institute of Technology grants credit for Subject Examinations **only.** The tests are administered by appointment. Candidates should consult with the Registrar

for application forms and other specific information including fees. These tests may not be repeated. Examination must be taken prior to the student's completion of a total of 40 hours of college credit.

CLEP offers a number of subject–matter examinations. Students obtaining the percentiles established by the mathematics, computer science and general education departments will receive credit toward that basic requirement. Students wishing credit in courses other than those listed below should consult the appropriate departmental chair.

Credit or course waivers may be granted for satisfactory attainment on Subject Examinations of the College–Level Examination Program (CLEP) of the College Entrance Examination Board. These tests may be taken at any of a number of test sites and the responsibility for scheduling such examinations is the student's. Credit will be given only in those areas in which comparable courses are offered at DIT. There are no restrictions on the amount of CLEP credit that may be earned and applied toward graduation. For further details and information concerning test centers, and dates, students should check with the College Board at www.collegeboard.org. Hours granted or courses waived are entered on students' transcripts, but no grades or quality points are awarded. Official results must be sent to the Registrar for analysis before credit or course waivers are granted.

DigiPen Institute of Technology will grant credit to students who pass the CLEP Subject Examinations approved by the department appropriate to the examination. The score necessary to receive credit through a Subject Examination will be the mean score achieved by "C" students in the national norms sample. The number of course credits to be given for passing a Subject Examination will be determined by the appropriate department.

VALIDATION EXAMINATIONS and COURSE CHALLENGES

Students who have transcripts from nonaccredited colleges and/or transcripts showing nontransferable college courses may request to take validation examinations in courses which are comparable to those offered by DigiPen Institute of Technology. Upon successful completion of the examination(s), the student will be given credit as specified.

Departments may designate as challenge courses certain courses involving primarily substantive materials or technical proficiencies. A student at the appropriate level of classification may, with the approval of the department chair, challenge the course by taking an examination. If the student makes a satisfactory grade on the examination, full credit for the course will be given.

Students challenging courses for which they are not registered will pay a fee of $100 per course.

A challenge examination is a college–prepared or a standardized examination that, if successfully completed, will yield regular college credit. The student must take the examination before enrolling for further study in their program. The challenge examination may not be repeated and must be taken prior to the final semester of residence.

TRANSFER CREDIT

Credit earned by examination at other colleges or universities may be transferred provided such credit meets the guidelines used by DigiPen Institute of Technology.

College credits earned elsewhere will be evaluated by the Registrar with respect to curricular requirements at DigiPen Institute of Technology. Transfer credit is granted for academic classes appearing on official transcripts of post–secondary institutions in which students earn a grade of "B" or better. Transfer credit is not granted for developmental classes, orientation classes, or for classes in which a student receives a "Pass". Current DIT students are advised to confer with the Registrar prior to enrolling in course work at other institutions if they intend that the credit be applied toward graduation from DIT. Class standing of transfer students will be based on the number of credits accepted for transfer. Hours earned and courses waived are entered on students' transcripts, but no grades or quality points are awarded.

Transfer credit may be accepted subject to the following conditions and restrictions.
- The course(s) offered for transfer must be taken at an accredited institution.
- The course(s) must be comparable in academic quality to DIT courses; transfer credit will be denied for courses not meeting this standard. Accordingly, current students are strongly urged to seek transfer approval from their advisor and the Registrar using the form provided for this purpose prior to enrollment in any course for which transfer approval might be sought.
- Transfer credit will be considered for courses in which the grade of "B" or better is recorded.
- Credit or Pass grades will not be accepted in transfer.

If a course is accepted for credit, it will be counted as "transfer credit". No grade points from such transfer courses will be calculated in the DigiPen Institute of Technology grade point average. However, grades transferred for courses taken in residence at institutions for which DigiPen Institute of Technology has direct, formal institutional exchange agreements are exempt from this policy, and will be

recorded. Courses transferred in may not be used to substitute improved grades for grades earned at DigiPen Institute of Technology.

VALIDATION EXAMINATIONS and COURSE CHALLENGES

Students who have transcripts from nonaccredited colleges and/or transcripts showing nontransferable college courses may request to take validation examinations in courses which are comparable to those offered by DigiPen Institute of Technology. Upon successful completion of the examination(s), the student will be given credit as specified.

Departments may designate as challenge courses certain courses involving primarily substantive materials or technical proficiencies. A student at the appropriate level of classification may, with the approval of the department chair, challenge the course by taking an examination. If the student makes a satisfactory grade on the examination, full credit for the course will be given. Students challenging courses for which they are not registered will pay a fee of $100 per course.

A challenge examination is a college–prepared or a standardized examination that, if successfully completed, will yield regular college credit. The student must take the examination before enrolling for further study in their program. The challenge examination may not be repeated and must be taken prior to the final semester of residence.

COSTS OF POSTING CREDIT/COURSE WAIVERS

DigiPen Institute of Technology charges a fee of $50.00 per credit hour for processing Advanced Placement and CLEP credits. No fee is charged for transfer credit evaluations or for posting the waiver of a course.

Credit Evaluation Forms

Application forms for challenge, and/or waiver examinations may be obtained from the Registrar. A student must have approval for an exam prior to taking an exam.

Transferability of Credits within the Institute

 A student who wishes to transfer from one program of study to another within the same major may do so by written request to the Registrar. All credits assigned within the same major in one program of study are fully transferable to the other. Graduates of the two–year program who decide to pursue the four–year program must relinquish the original copy of their Associate Degree.

Transferability of Credits to Other Institutions

The Institute will furnish transcripts and other documents necessary for a receiving institution to judge the quality and quantity of a student's work. The Institute advises all prospective students that the work reflected on their transcript may or may not be accepted by a receiving institution. Students should inquire with the specific receiving institution about transferability of Institute credits.

Acceptance of Credits

Credits granted by other institutions are accepted on a case by case basis.

Granting Credits for Experience

The Institute does not at this point grant credits for experience.

Financial Assistance

Federal financial aids are not available yet; however, student loan programs offered by the SLM Financial Corporation (Sallie Mae) and by Key Bank are available to interested eligible applicants. For more information, SLM Financial Corporation can be reached at (800) 559–3220 or on the web at www.salliemae.com. Information on Key Bank loans may be obtained at 1–800–539–5363 or online at www.key.com/educate.

Student Services

OrientationsOpen House
A weekly orientation open house is offered to the general public free of charge. Any person interested in finding out more about the programs offered by the Institute is welcome to attend an information session held at the Institute. Currently, the information session is held every Friday at 4:00 pm, excluding holidays. Students who are accepted are required to attend an official orientation session prior to the start of the program.

Academic CounselingAdmissions advising
An academic advisor is available on staffStaff is available to assist applicants in determining a relevant course of study required in order to be accepted into a the program of study at DigiPen. Staff will also assist students who are enrolled in the program to determine their recommended course load according to their academic objectives (i.e. honors program, specialization, etc.).

Career Planning

The Baccalaureate Degree of Science in Real Time Interactive Simulation prepares students to pursue a career in the computer/video game development industry. Students may also enter into other industries that encompass computer graphics and animation software development and multimedia presentation technology. Applicants must express their desire to enter into one of these related fields prior to their acceptance into the Institute.Advice on career options is available for enrolled students.

Degree Status and Graduation

All students must officially declare their degree intent by the end of their first semester at DigiPen Institute of Technology. The *Degree Status Form* may be obtained from the Registrar.

A student may request a change in their degree status by completing the *Degree Status Form* (Part I) provided by the Registrar. The student must sign the form and submit it to the Registrar for approval. The Registrar reserves the right to review each request on a case–by–case basis.

The conditions for changing are:
- The student must be in good standing at the time of the official request.
- Students changing from the bachelor's degree to the associate degree must request the change by end of semester 6.
- Students changing from the associate degree to the bachelor's degree must request the change by the end of semester 3.
- Students requesting a change in degree status from the bachelor's to the associate degree must complete 75% of the required core courses at DigiPen Institute of Technology. Transfer credits from other institutions will be reviewed on a course–by–course basis.
- Students may transfer excess credits beyond the associate degree to the bachelor's degree if they choose to re–enroll in the Bachelor of Science degree program at a later date.

Applying for Graduation

The Institute sets minimum requirements for all students seeking undergraduate degrees. **The Institute reserves the right to change graduation requirements at any time. Every degree candidate is expected to comply with changes in requirements as they relate to the uncompleted portion of coursework.**

Most students will follow the graduation requirements published in the catalog for the year they enter DigiPen Institute of Technology. Students who interrupt their attendance may be held to the requirements of the current catalog when they return.

For additional information regarding requirements, please refer to the current General Catalog or on the World Wide Web. Students are responsible for insuring that all graduation requirements have been completed.

Approximately 4 to 6 weeks after students apply for graduation, a degree audit report will be mailed. This report identifies courses students have taken to complete the bachelor degree requirements. This report is used to assist students in planning future course work to insure that all graduation requirements are met. Students should take the degree audit report with them when checking progress toward graduation with the department adviser and/or the Registrar.

Students are responsible for notifying the Registrar of any changes in their proposed programs and questions resolved prior to registration for their final term at DigiPen Institute of Technology.

Undergraduate students who feel there is justification for an exception to these graduation requirements may petition the Graduation Committee. Information on filing a petition is available at the Registrar's office.

All incomplete (I) grades and conditions affecting graduation must be removed from the student's record by the last regular class period of the term.

All credit course work affecting graduation must be completed by the regular class period of the term.

A letter of instruction is mailed to degree candidates in March regarding deadlines and procedures for commencement–related activities including rental of caps and gowns through the Administration office.

Graduation Application Process

1. Student completes **Parts I & II of the Graduation Application**.

2.The **academic advisor should review most recent transcript or degree plan to verify progress and sign Part III.** If student has completed all courses satisfactorily to date and, if upon satisfactory completion of courses for which student is currently registered, he/she will be eligible for graduation.

3. After this review, **the Registrar will make a preliminary review of progress during final semester of enrollment and sign Part IV.**

4.Final approval will not be made until after final grades are submitted and posted to student's record. Degrees will be mailed as soon as possible after that process, which should be from 4–6 weeks after completion. The student needs to keep the Registrar informed of address changes so that degrees are mailed to correct address.

Placement Services

The Institute continues to establish relationships with various computer/video game development companies, and prospective employers who wish to recruit DigiPen students are cordially invited to conduct on–campus interviews. However, employment upon graduation is not guaranteed. The Institute also provides placement services in the form of internships that may be available during the summer; the placement program bases its recommendations of students on their academic performance.

Institutional Calendar

The Institute is closed on all statutory holidays.

The laboratory facilities may be closed for a period of two consecutive days per month for maintenance. It is usually the last two (2) working days of the month unless otherwise posted.

Enrollment occurs once a year in September. registration for the Fall Semester takes place during the last week of August.

> *Fall Semester*
> > Starts in September
> > Mid–term week starts mid–October
> > Final exam week starts in December
> *Winter Vacation*
> > Starts in mid–December
> > Ends in early January
> *Spring Semester*
> > Starts in January
> > Mid–term week starts in mid–February
> > Final exam week starts in mid–April

Summer Vacation
        Starts in late April

Regulation of Conduct and Disciplinary Procedures

The Institute has the right to take whatever disciplinary action is deemed to be warranted by a student's misconduct. The specific provisions as to Offenses, Penalties and Disciplinary Procedures, which are set out below, should not be construed as limiting the general authority of the Institute.

Offenses

Misconduct subject to penalty includes, but is not limited to, the following offenses:

1.   Plagiarism

Plagiarism is a serious form of academic misconduct in which an individual submits or presents the work of another person as his or her own. Possession of source code, artwork, concept or other material without the explicit permission from the owner is also construed to be plagiarism. When excerpts are used in paragraphs or essays, the author <u>must</u> be acknowledged through footnotes or other accepted practices.

<u>Substantial plagiarism</u> exists when no recognition is given to the author for phrases, sentences, and ideas of the author incorporated in an essay or other academic presentation submitted for evaluation.

<u>Complete plagiarism</u> exists when an entire essay or other academic presentation is copied from an author, or composed by another person, and presented as original work.

(Students who are unsure as to what constitutes a case of plagiarism should consult their instructor.)

2.   Submitting the same essay, presentation, or assignment more than once whether the earlier submission was at this or another Institute, unless prior approval has been obtained.

3.   Cheating on an examination or falsifying material subject to academic evaluation.   Cheating includes having during an examination any materials other than those authorized by the examiners.

4.   Impersonating a candidate at an examination or availing oneself of the results of such impersonation.

5.   Submitting false records or information, in writing or orally, or failing to provide relevant information when requested.

6.   Falsifying or submitting false documents, transcripts or any other academic credentials.

7.   Disrupting instructional activities, including making it difficult to proceed with scheduled lectures, seminars, examinations, tests, etc.

8.   Evidencing symptoms of alcohol or drug use while on school property, or the procurement or possession of illegal substances on school property.

9.   Damaging, removing, or making unauthorized use of the Institute's property, or the personal property of faculty, staff, students or others at the Institute. Without restricting the generality of "property", this includes information, however it may be recorded or stored.

10. Assaulting individuals, including conduct which leads to the physical or emotional injury of faculty, staff, students, or others at the Institute, or which threatens the physical or emotional well–being of faculty, staff, students, or others at the Institute.

11. Attempting to engage in, or aiding and abetting others to engage in, or attempt to engage in, conduct which would be considered an offense.

12. Downloading or installing software on school equipment without express permission from school authorities.

13. Failing to comply with any penalty imposed for misconduct.

Penalties

The penalties that may be imposed, singly or in combination, for any of the above offenses may include, but are not limited to, the following:

1.   A failing grade or mark of zero for any course, examination, or assignment in which the academic misconduct occurred.

2.   Suspension from the Institute for a specified period of time or indefinitely. Students will not receive credit for courses taken at another institution during a suspension.

3.   Reprimand, with the letter placed in the student's file.

4.   Restitution, in the case of damage to property or unauthorized removal of property.

5.   A notation on the student's permanent record of the penalty imposed.

Warning

1. The penalty for plagiarism or for cheating is normally suspension from the Institute.

2. Charges filed under federal or state legislation or the commencement of civil proceedings do not preclude disciplinary measures taken by the Institute.

3. Students are fully responsible for ensuring that proper back–ups of their work are maintained. DigiPen is not responsible for any lost work due to improper back–ups.

Procedures

An alleged instance of student misconduct deemed serious enough for action by the Institute shall be referred to a disciplinary committee. After an investigation and hearing at which the student is invited to appear, the committee reports to the Academic Officer and/or the RegistrarDean of Faculty. The student then has the opportunity to meet with the Academic Officer or RegistrarDean of Faculty, if he or she wishes, before a decision is made.

A student suspected or apprehended in the commitment of an offense shall be notified, within a reasonable period of time, of intention to report the alleged offense to the department head, student services officer, or other appropriate person. The student shall also be given the opportunity to explain the incident and, if he or she requests, to meet with the department head, student services officer, or other appropriate person, before the alleged offense is reported to the Academic Officer or RegistrarDean of Faculty.

Appeals

A student has the right to dispute the decision of the Academic Officer and/or RegistrarDean of Faculty. A student who wishes to make an appeal must notify the Chief Executive Operating Officer in writing and must provide a full explanation of the reasons for appealing.

Appeal hearings take place before a committee called together by the Chief Executive Operating Officer. A student is entitled to be represented or assisted throughout the appeal process by an advocate who may be a friend, relative, or legal counsel. The student is entitled to explain the reasons for appealing either orally or in writing, and may call witnesses. The Academic Officer or

RegistrarDean of Faculty is also present, and puts forth the reasons for the original decision.

The members of the committee may ask questions of both the student and the Academic Officer or RegistrarDean of Faculty. As soon as possible after the hearing is completed, the Chief Executive Operating Officer will notify the student of the final decision in writing.

The Baccalaureate and Associate Degrees of Science in Real Time Interactive Simulation

Program Objectives

Both programs focus on the subject of computer simulation with an emphasis on real time interactive simulation technologies. They offer extensive training in mathematics and physics as a foundation for the various topics presented in general computer science and computer graphics. The various lectures offered each semester converge towards the creation of a practical project. Each practical project embodies the theoretical knowledge gained from the courses offered in the previous and current semesters. These projects are game–oriented productions since games are a perfect media to present complicated subjects in a format agreeable to students. The advantages of game–oriented productions are:

- Games are graphics–oriented simulations, including two, and three–dimensional based simulations.
- Games can realistically reproduce or simulate natural phenomena and real life events. Flight simulators are excellent examples of such simulations.
- Games are highly interactive, requiring an elaborate and efficient Graphical User Interface (GUI). The development of a GUI requires the management of windows, menus, dialog boxes, and hardware resources including keyboards, mice, and display monitors.
- Games react in real time. The implementation of such simulations requires a thorough knowledge of computer hardware and computer languages.
- Games are story–based simulations requiring a plot in which game objects must interact intelligently with each other. Therefore, in order to make games challenging and interesting, students must design and implement good artificial intelligence algorithms, which serve as the cognitive processes for the computer–controlled game objects.
- Games could be designed for either a single–player or multiple–player environment. The development of a multiple–player game requires the understanding of subjects such as Computer Networks, TCP/IP, and internet programming.
- Games are excellent examples of large and complex productions. Teamwork is essential to the successful completion of such productions. Therefore, students are divided into teams and are rigorously trained in Object–Oriented Programming Languages, paradigms, and Software Engineering techniques and practices. These collaborative efforts reinforce student ability to work competently within a group while completing projects.

Successful graduates of these programs will gain the skills required to successfully pursue careers in the rapidly growing world of computer

technologies in general, and computer graphics and simulations in particular. Students should note that those completing a Baccalaureate degree program will have an additional two years of academic and practical training in advanced concepts of mathematics, graphics and simulations. Since successful graduates of both programs will have developed an extensive portfolio of games, the computer/video game industry may be their prime choice in choosing a career field.

These degree programs are intense educational experiences in a specialized, highly technical area. They do not attempt to provide a broad, general education, but rather, directly prepare students for a rapidly expanding career field. Advisors are prepared to counsel students desiring more general education course work about supplementary opportunities available through other institutions.

Length

The Baccalaureate Degree program consists of one hundred fifty four (154) credits offered over eight (8) semesters of fifteen (15) weeks each. The credits are divided into one hundred fourteen (114) theory credits and forty (40) practical credits in the form of eight (8) semester–long, real time simulation projects.

The Associate Degree program consists of eighty (80) credits* offered over four (4) semesters of fifteen (15) weeks each. The credits are divided into fifty–one (51) theory credits and twenty–nine (29) practical credits in the form of four (4) semester–long, real time simulation projects.

* Please refer to the section entitled, "Definition of a Credit" on page 27.

Admission

As a minimum requirement all applicants must have:

• Proficiency in the English language. Non–native English speakers must provide a minimum TOEFL score of 550.

• Completed Grade 12 with the following additional requirements:

  High School Graduates
  Applicants must have achieved a minimum of a "B" average or a 3.0 GPA in their Grade 12 Mathematics and have a cumulative GPA of at least 2.5. Relevant Physics, Chemistry, and Computer Science courses are also considered.

  University / College Students

Applicants who have already begun their post–secondary education must have a "B" average or at least a 3.0 GPA in University/College level Mathematics, Physics, Chemistry, or Computer Science. A College/University transcript must be submitted to be considered for admission.

Entrance Examination
Applicants who do not meet either of the above two conditions may apply for an entrance examination. This exam is given to ensure that the applicants have the sufficient background necessary to successfully pursue DigiPen's programs. The main areas to be tested are:

- Proficiency in the English language *(For non–native English speakers)*
- Mathematics level
- High–school Sciences mainly:
    Physics
    Chemistry
    Computer Sciences
- Idea(s) for game storyboard(s)

Applicants who complete the entrance examination are competing for a limited number of seats; therefore, a passing grade does not guarantee enrollment. Furthermore, the entrance examination may not be available if more eligible students have already filled the designated number of seats.

The advisory committee determines eligibility for acceptance into a program. In general, admission is competitive; those who exceed the minimum admission requirements are more likely to be accepted into the program.

COURSES OFFERED

Mathematics Department

MAT 100	Algebra and Trigonometry	(4 Credits)
MAT 140	Linear Algebra and Geometry	(4 Credits)
MAT 150	Calculus and Planar Analytic Geometry	(4 Credits)
MAT 200	**Calculus and Solid Analytic Geometry**	**(4 Credits)**
MAT 250	Linear Algebra	(3 Credits)
MAT 300	Advanced Surface Modeling	(3 Credits)
MAT 350	Solid Modeling	(3 Credits)
MAT 351	Quaternions, Interpolation and Animation	(3 Credits)
MAT 352	Wavelets	(3 Credits)
MAT 353	Geometry: Affine, Projective, Differential	(3 Credits)
MAT 354	Computational Geometry	(3 Credits)
MAT 355	Graph Theory	(3 Credits)
MAT 356	Differential Equations	(3 Credits)
MAT 357	Numerical Analysis	(3 Credits)
MAT 358	Combinatorics	(3 Credits)
MAT 359	Implicit Curves and Surfaces	(3 Credits)
MAT 360	Finite Elements	(3 Credits)
PHY 200	Motion Dynamics	(3 Credits)
PHY 250	Waves, Optics, and Aero–Dynamics	(3 Credits)

Computer Science Department

CS 100	Computer Environment	(3 Credits)
CS 110	Operating System I Man–Machine Interface	(3 Credits)
CS 120	High Level Programming I	(3 Credits)
CS 170	High Level Programming II	(3 Credits)
CS 180	Game Implementation Techniques I	(3 Credits)
CS 190	Special Topics in Computer Science I	(3 Credits)
CS 200	Computer Graphics I	(3 Credits)
CS 220	High Level Programming III	(3 Credits)
CS 230	Game Implementation Techniques II	(3 Credits)
CS 240	Special Topics in Computer Science II	(3 Credits)
CS 250	Computer Graphics II	(3 Credits)
CS 260	Computer Networks	(3 Credits)
CS 270	High Level Programming IV	(3 Credits)
CS 280	Data Structures	(3 Credits)
CS 300	Advanced Computer Graphics I	(3 Credits)
CS 310	Low Level Programming I	(3 Credits)

CS 330	Algorithm Analysis	(3 Credits)
CS 350	Advanced Computer Graphics II	(3 Credits)
CS 360	Low Level Programming II	(3 Credits)
CS 370	Image Processing	(3 Credits)
CS 400	Ray Tracing I	(3 Credits)
CS 420/320	Graphics File Format and Data Compression Techniques	(3 Credits)
CS 450	Ray Tracing II	(3 Credits)

Game Software Design and Production Department

GAM 100	Introduction to Game Design & Production	(3 Credits)
GAM 150	Project I	(3 Credits)
GAM 200	Project II	(8 Credits)
GAM 300	Project III	(10 Credits)
GAM 400	Project IV	(10 Credits)
GEN 300	3D Computer Animation Production I	(3 Credits)
GEN 350	3D Computer Animation Production II	(3 Credits)
GEN 400	Multimedia Aspects of Game Making I	(3 Credits)
GEN 450	Multimedia Aspects of Game Making II	(3 Credits)
GAM 390	Internship I	(1–5 Credits)
GAM 490	Internship II	(1–5 Credits)

General Education Department

ART 210	**Art Appreciation**	**(2 Credits)**
ART 400	Drawing Fundamentals	(2 Credits)
ENG 110	Composition	(3 Credits)
ENG 150	Mythology for Game Designers	(3 Credits)
ENG 400	Creative Writing for Game Design	(3 Credits)
ENG 450	Elements of Media for Game Designers	(3 Credits)
SOS 150	Thought, Cognition and Creativity	(3 Credits)

Baccalaureate of Science Requirements

One of the following	All of the following
	ART 210
MAT 350	ART 400
MAT 351	CS 100
MAT 352	CS 110
MAT 353	CS 120
MAT 354	CS 170
MAT 355	CS 180
MAT 356	CS 200
MAT 357	CS 220
MAT 358	CS 230
MAT 359	CS 250
MAT 360	CS 260
	CS 270
	CS 280
	CS 300
	CS 310
	CS 330
	CS 350
	CS 360
	CS 370
	CS 400
	CS 420
	CS 450
	ENG 110
	ENG 150
	ENG 400
	ENG 450
	GAM 100
	GAM 150
	GAM 200
	GAM 300 *or* GAM 390
	GAM 400 *or* GAM 490
	GEN 300
	GEN 350

MAT 100 *or* MAT 140
MAT 150
MAT 200
MAT 250
PHY 200
PHY 250
SOS 150

Associate of Science Requirements

All of the following
ART 210
CS 100
CS 110
CS 120
CS 170
CS 180
CS 200
CS 220
CS 230
CS 250
CS 260

CS 270
CS 280
ENG 110
ENG 150
GAM 100
GAM 150
GAM 200
MAT 100 *or* MAT 140
MAT 150
MAT 200
MAT 250
PHY 200
PHY 250
SOS 150

Student Internship Guidelines

An internship is any carefully monitored work or service experience in which an individual has intentional learning goals and reflects actively on what she or he is learning throughout the experience. It is usually a professional activity under general supervision of an experienced professional, in a job situation, which places a high degree of responsibility on the student.

These learning goals may include:

- Academic learning – the individual can apply knowledge learned in the classroom to the workplace;

- Career development – the individual gains a knowledge of the qualifications and duties of a position and can explore their interest in a field;

- Skill development – the individual gains an understanding of the skills and knowledge required in the workplace;

- Personal development – the individual gains decision–making skills, critical thinking skills, increased confidence and self–esteem.

Internships may vary in duration; they can last from a month (or less) to one semester. They can take place in any work or service setting.

Internships can be part–time or full–time, paid or unpaid. They are part of the educational program and as such, they are carefully monitored and evaluated for academic credit. The important element that distinguishes an internship from a

short–term job or community service is the intentional "learning agenda" that the intern brings to the experience.

Students must have a minimum of 45 internship hours for each credit granted. The three components of the final letter grade are listed below. Only A through D grades are used to measure outcomes:

- The evaluation form which is sent to the supervisor two weeks prior to the end of the semester.

- The student must evaluate his or her own learning objectives against the experience attained.

- Instructor feedback gained from observation or communication with the supervisor(s).

Guidelines

All students intending to engage in an internship must obtain prior approval from the appropriate faculty advisor.

The internship may occur at any time during the year. However, students preparing to enter an internship should contact the faculty advisor of their appropriate emphasis at least six weeks before the employment is to begin, as an application is required which includes a plan for the internship.

Prior to the formal approval of the internship, a planning meeting is conducted. This meeting includes the faculty advisor, the student and the person(s) who will directly supervise the student (field supervisor). The purpose of this meeting is to agree upon a job description, a work schedule, performance expectations and remuneration (if any). Specific learning objectives set forth in the application will be sent to the Dean of Faculty before the start of the internship.

The faculty advisor will assist in assuring that the work experience meets both student and organizational needs, with *priority given to the student's interests and to the assurance that the experience will result in learning outcomes acceptable to the students degree program.*

Although an internship may involve some payment or stipend for the student, this cannot be expected in all cases. Anyone receiving financial aid should check with that office regarding the implications of additional income from a paid internship.

The faculty advisor will send the agreement to all parties outlining the terms and conditions of the student's placement **prior** to any internship work.

The student must register for an internship course during the semester that the internship experience will be completed. Ordinarily this means registering for the internship course just prior to beginning the actual internship employment.

Permission from the appropriate internship instructor is required *before* registering for the course as follows.

Semester applying for internship:	Instructor must be contacted by:
Fall	June 30
Spring	November 30
Summer	March 1

The primary means of evaluation for grading purposes will be determined through communication between the student, the field supervisor and the faculty member. This may include conferences, letters, reports, and the field supervisor's evaluation. Written reports, plans, products designed, and other products may be used as evaluative materials. Achievement of specified learning objectives should be addressed in the student's evaluation letter. Students who work for multiple supervisors (more than two) are encouraged to maintain a diary of activities. Whenever possible, the evaluative data should emphasize the application of theories, concepts and techniques relevant to the student's degree program.

The time spent in conferences (and travel to such) may be considered part of the student's internship assignment and work hours.

Students must present a final written evaluation of their internship prior to the final week of the semester in which the internship course is taken. If this written evaluation is not completed, a failing grade is given for the course.

Remember:

- The student must read and understand the *Internship Guidelines.*

- The student must fill out an *Internship Application* the semester before the start of the internship according to the schedule above.

- The student and the faculty member should participate in setting up the internship. Students are urged not to place too much emphasis on the fact that an internship carries a stipend but on the future career value of the internship.

- A meeting before the start of the internship must take place with the faculty member, the student and the internship supervisor.

- An internship agreement must be sent to the internship supervisor prior to the start of the internship.

- During the internship, the student must have contact with the faculty member on a timely basis. This can take place by meeting, memo, e–mail, or any other means. Every two weeks is a good guide.

Semester 5 (20 Credits)

CS 300	Advanced Computer Graphics I	(3 Credits)
CS 310	Low Level Programming I	(3 Credits)
CS 320	Graphics File Format and	(3 Credits)
	Data Compression Techniques	
CS 330	Algorithm Analysis	(3 Credits)
GEN 300	3D Computer Animation Production I	(3 Credits)
GAM 300	Project III – Part 1	(5 Credits)

Semester 6 (20 Credits)

MAT 350	Linear Algebra	(3 Credits)
CS 350	Advanced Computer Graphics II	(3 Credits)
CS 360	Low Level Programming II	(3 Credits)
CS 370	Image Processing	(3 Credits)
GEN 350	3D Computer Animation Production II	(3 Credits)
GAM 300	Project III – Part 2	(5 Credits)

Semester 7 (17 Credits)

MAT 400	Advanced Surface Modeling	(3 Credits)
PHY 400	Motion Dynamics	(3 Credits)
CS 400	Ray Tracing I	(3 Credits)
GEN 400	Multimedia Aspects of Game Making I	(3 Credits)
GAM 400	Project IV – Part 1	(5 Credits)

Semester 8 (17 Credits)

MAT 450	Solid Modeling	(3 Credits)
PHY 450	Waves, Optics and Aero–Dynamics	(3 Credits)
CS 450	Ray Tracing II	(3 Credits)
GEN 450	Multimedia Aspects of Game Making II	(3 Credits)
GAM 400	Project IV – Part 2	(5 Credits)

COURSES REQUIRED FOR ASSOCIATE DEGREE PROGRAM (listed by Semester)

Semester 1 (20 Credits)

MAT 100	Algebra and Trigonometry	(6 Credits)
	or	
MAT 140	Linear Algebra and Geometry	(6 Credits)
CS 100	Computer Environment	(3 Credits)
CS 110	Operating System I	(3 Credits)
	Man–Machine Interface	
CS 120	High Level Programming I	(3 Credits)
GAM 100	Project Introduction	(5 Credits)

Semester 2 (20 Credits)

MAT 150	Calculus and Planar Analytic Geometry	(6 Credits)
CS 160	Operating System II	(3 Credits)
	OS Interface to Graphics and Sound Hardware	
CS 170	High Level Programming II	(3 Credits)
CS 180	Game Implementation Techniques I	(3 Credits)
GAM 150	Project I	(5 Credits)

Semester 3 (20 Credits)

MAT 200	Calculus and Solid Analytic Geometry	(6 Credits)
CS 200	Computer Graphics I	(3 Credits)
CS 220	High Level Programming III	(3 Credits)
CS 230	Game Implementation Techniques II	(3 Credits)
GAM 200	Project II – Part 1	(5 Credits)

Semester 4 (20 Credits)

CS 250	Computer Graphics II	(3 Credits)
CS 260	Computer Networks I	(3 Credits)
	Interprocess Communication	
CS 261	Computer Networks II	(3 Credits)
	TCP/IP Communication Protocol	

CS 270	High Level Programming IV	(3 Credits)
CS 280	Data Structures	(3 Credits)
GAM 200	Project II – Part 2	(5 Credits)

Credits and Contact Hours

The academic value of each course is stated in semester credits. Each credit is normally earned by attending one hour of lecture or recitation per week for the entire semester, or by attending a laboratory or studio period of two or three hours per week. In addition, undergraduate students typically will be expected to spend two hours in preparation outside of class for each lecture or recitation hour; additional outside work may be required for laboratory or studio classes.

Semester Credit Hour

The semester credit hour (sch) is the basic unit of credit. As a rule, one semester credit hour of academic credit is given for each lecture class hour per week for a fifteen–week semester. In laboratory or studio situations, one semester credit hour normally is given for two to five contact hours per week for a fifteen–week semester. During nine–week summer sessions, the student earns semester credit hours for class contact hours that are essentially equivalent in number to those provided in the long semesters. Where semester hour is used in this Catalogue, it is synonymous with semester credit hour (sch).

Definition of a Credit

A credit is defined as follows:
- One (1) "lecture credit" or one (1) "theory credit" is defined to be:
  1 hour of lecture plus 2 hours of homework, each week of the 15 weeks of the semester. Supervised or Free study in the laboratory is considered to be homework time.
- One (1) "practical credit" or one (1) "project credit" is defined to be:
  3 hours of laboratory work (Lab), each week of the 15 weeks of the semester.

The Daily Workload

	Monday to Friday	Saturday
09:00–10:00	Theory/Lecture – 3 credits	Free Lab (Mon. homework hr. 6)
10:00–11:00	(3 hrs. + 6 hrs. homework per	Free Lab (Tue. homework hr. 6)

11:00–12:00	week for the whole of the semester)	Free Lab (Wed. homework hr. 6)
12:00–13:00	**Lunch Break**	Free Lab (Thu. homework hr. 6)
13:00–14:00	Practical – 1 credit	Free Lab (Fri. homework hr. 6)
14:00–15:00	(3 hrs. of Laboratory per	
15:00–16:00	week for the whole of the semester)	
16:00–17:00	Free Lab (homework	
17:00–18:00	of same day lecture hrs. 1 and 2)	
18:00–19:00	**Dinner Break**	
19:00–20:00	Free Lab	
20:00–21:00	(homework of same day lecture hrs.	
21:00–22:00	3, 4, and 5)	

As shown in the table above, theory lectures are three (3) hours long. Lectures are given from Monday to Friday from 9:00 am until 12:00 pm. The laboratory is open for homework studies for a period of six (6) hours after each lecture. Five (5) of the six hours are scheduled on the same day of the lecture from 16:00 until 18:00 and from 19:00 until 22:00. The sixth hour is scheduled on Saturday. Furthermore, the homework laboratory time is supervised between 16:00 and 18:00. This gives the students the opportunity to get assistance during the first two hours of their homework time. This daily workload model allows a workload of 4 credits/day/semester: three (3) "theory" or "lecture" credits and one (1) "practical" or "project" credit.

The Weekly and Semester Workload

The workload for a typical week is shown in the table below. Five different theoretical courses, each worth three (3) credits, are presented each semester. A practical project worth five (5) credits must also be completed. A total of twenty (20) credits are offered each semester. The 20 credits are divided as follows:
- Fifteen (15) theory credits
- Five (5) practical credits

SAMPLE WEEKLY TIMETABLE

	Mon.	Tue.	Wed.	Thurs.	Fri.	Sat.
09:00–10:00	Lecture 1	Lecture 2	Lecture 3	Lecture 4	Lecture 5	Free Lab
10:00–11:00	(3 Credits)	(3 Credits)	(3 Credits)	(3 Credits)	(3 Credits)	for
11:00–12:00						Lectures
12:00–13:00	Lunch Break					
13:00–14:00						
14:00–15:00	Main Project of the Semester (5 Credits)					
15:00–16:00						
16:00–17:00	Lab Lecture 1	Lab Lecture 2	Lab Lecture 3	Lab Lecture 4	Lab Lecture 5	
17:00–18:00						
18:00–19:00	Dinner Break					
19:00–20:00	Free	Free	Free	Free	Free	
20:00–21:00	Lab	Lab	Lab	Lab	Lab	
21:00–22:00						

Courses Offered

The courses that are offered are organized into five major categories:
- **Mathematics Courses (MAT)**
- **Physics Courses (PHY)**
- **Computer Sciences Courses (CS)**
- **Projects (GAM)**
- **General Courses (GEN)**

Course Codes

Each course code consists of three digits:
- The first digit represents the year in which the course is being offered.
- The second digit represents the serial number of the course in its category. This number often represents the level of difficulty of the course within that category.
- The third digit represents the advanced level of a course that is offered in the same semester.

Course Descriptions

Department of Mathematics (MAT)

Title:	**Algebra and Trigonometry**
Code:	**MAT 100**
Credits:	4
Type:	Math, Theory, Compulsory
Pre-requisites:	None
Objectives:	This course provides a solid foundation in basic algebra and in trigonometry, which is essential for further studies in mathematics, physics and computer graphics

Title:	**Linear Algebra and Geometry**
Code:	**MAT 140**
Credits:	4
Type:	Math, Theory, Compulsory
Pre-requisites:	MAT 100 or advanced placement exam
Objectives:	Linear algebra is one of the most important mathematical tools in computer graphics. This includes the use of vectors in the representation of physical and geometrical objects, and even more importantly, the use of linear transformations (matrices) to manipulate them. This course will cover the basic concepts, constructions and computations in linear algebra as they relate to computer graphics.

Title:	**Calculus and Planar Analytic Geometry**
Code:	**MAT 150**
Credits:	4
Type:	Math, Theory, Compulsory
Pre-requisites:	MAT 100 or MAT 140
Objectives:	This is a one-year course that presents an algebraic treatment of basic geometrical planar primitives. This course is fundamental to the successful study of subsequent math and physics courses. In addition, the practical applications of this course include the implementation of many graphics algorithms related to the creation of two-dimensional shapes on the computer screen. This course also introduces the students to the techniques of differentiation. Such techniques are used in analytic geometry, graphing, representation of physical phenomena, as well as the parametric representation of 2D shapes and 3D objects.

Title: **Calculus and Solid Analytic Geometry**
Code: **MAT 200**
Credits: 4
Type: Math, Theory, Compulsory
Pre−requisites: MAT 150
Objectives: This course extends the topics presented in the Planar Analytic Geometry [MAT 150] course into the third dimension. As in the case of [MAT 150], this course is fundamental to the successful study of subsequent math and physics courses, as well as in the implementation of many graphics algorithms related to the creation of three−dimensional objects. Additionally, the student is introduced to the techniques of integration.

Title: **Linear Algebra**
Code: **MAT 250***(Formerly MAT 350)
Credits: 3
Type: Math, Theory, Compulsory
Pre−requisites: MAT 200
Objectives: This course will cover the mathematical foundations for vectors and linear transformations that are so important in computer graphics, in fact, all of modern science.

Title: **Surface Modeling**
Code: **MAT 300*** (formerly MAT 400)
Credits: 3
Type: Math, Theory, Compulsory
Pre−requisites: MAT 250*(formerly MAT 350)
Objectives: This course introduces the students to the techniques involved in the creation of complex curves, which are required for building three−dimensional objects. These topics are also used in simulating physical phenomena.

Title: **Solid Modeling**
Code: **MAT 350*** (formerly MAT 450)
Credits: 3
Type: Math, Theory, Compulsory
Pre−requisites: MAT 300* (formerly MAT 400)
Objectives: This course introduces the students to the techniques required in creating complex three−dimensional objects using simpler primitives. These techniques use

mathematical and logical operations, such as intersection, difference, and union between the various primitives to build complex objects.

Title: **Curves and Surfaces II**
Code: **MAT 350a**
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Quaternions, Interpolation and Animation**
Code: **MAT 351**
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Wavelets**
Code: **MAT 352**
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Geometry: Affine, Projective, Differential**
Code:

MAT 353
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Computational Geometry**
Code:

MAT 354
Credits: 3
Type: Math, Theory,

Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Graph Theory**
Code:

MAT 355
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Differential Equations**
Code:

MAT 356
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Numerical Analysis**
Code:

MAT 357
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Combinatorics**
Code:

MAT 358
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Implicit Curves and Surfaces**

Code:

MAT 359
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Title: **Finite Elements**
                   Code:

MAT 360
Credits: 3
Type: Math, Theory,
Pre–requisites: MAT 300
Objectives: **{This course is not being offered this academic year.}**

Department of Physics (PHY)

Title: **Motion Dynamics**
Code: **PHY 200***(formerly PHY 400)
Credits: 3
Type: Physics, Theory, Compulsory
Co–requisites: MAT 200
Objectives: This course provides a fundamental understanding of the dynamics of various moving bodies. This course allows the students to understand and implement the laws of physics into their simulation programs in order to achieve realism.

Title: **Waves, Optics and Aero–Dynamics**
Code: **PHY 250***(formerly PHY 450)
Credits: 3
Type: Physics, Theory, Compulsory
Pre–requisites: PHY 200*(formerly PHY 400)
Objectives: This course provides a fundamental understanding of the properties of light, periodic motions, and fluid dynamics. By understanding the physical laws that govern these phenomena, students will be able to implement ray casting and ray tracing algorithms, create realistic flight simulators, and create various lens effects in two and three–dimensional environments.

Department of Computer Science (CS)

Title:	**Computer Environment**
Code:	**CS 100**
Credits:	3
Type:	Computer Science, Theory, Compulsory
Pre–requisites:	None
Objectives:	This course provides a comprehensive and detailed description of the architecture and organization of a computer system. In addition, the concepts of Software Engineering are introduced.

Title:	**Operating System I**
	Man–Machine Interface
Code:	**CS 110**
Credits:	3
Type:	Computer Science, Theory, Compulsory
Pre–requisites:	None
Co–requisites:	CS 100, CS 120
Objectives:	This course presents the various components of the memory map of a computer and the techniques involved in writing software based on operating system calls.

Title:	**High Level Programming I**
	The C Programming Language
Code:	**CS 120**
Credits:	3
Type:	Computer Science, Theory, Compulsory
Pre–requisites:	None
Co–requisites:	CS 100
Objectives:	The objective of this course is to present the C programming language. It serves as a foundation to all high level programming courses and projects. The course starts with an introduction to the compiler used during the course. Grammar for describing computer languages is explained using BNF notations and regular expressions. These two topics are followed by a presentation of the C programming language and the C preprocessor.

Title: **High Level Programming II**
Advanced C
Code: CS 170
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre–requisites: CS 120
Objectives: This course focuses on advanced topics of the C programming language. Such topics include advanced pointer manipulation techniques, pointer applications and using standard library functions more efficiently. The course also presents many methods designed to avoid common C programming errors and pitfalls. Mastering the various topics presented in this course would enable the student to become a more productive programmer.

Title: **Game Implementation Techniques I**
Code: CS 180
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre–requisites: CS 110, CS 120
Objectives: In this course, the students learn about the major components that make up a video game. This course also puts into practice all the information and knowledge acquired in the previous semester and the following courses:
- **Computer Environment [CS100]**
- **Operating System I [CS110]**
- **Operating System II [CS211]**
- **High Level Programming I [CS120]**
- **High Level Programming II [CS170]**

Title:

Special Topics in Computer Science I

Code: CS 190
Credits: 3
Type: Computer Science, Theory,
Pre–requisites: None
Objectives: The objective of these courses is to provide theory and rigorous application experience in a variety of current Computer Science Topics.
Such topics may include, but are not limited to:

- HTML language.
- Java and Network Oriented Interpreters.
- Artificial Intelligence.
- Alternate Graphics Engines and APIs.
- Variations on Optimized 3D Representations.
  Loaders, linkers, object format and executable format.

Title: **Computer Graphics I**
Code: **CS 200**
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre–requisites: MAT 150, CS 170
Objectives: The objective of this course is to provide a rigorous presentation of the mathematical elements and algorithms involved in the generation and viewing of two–dimensional graphic primitives.

Title: **High Level Programming III**
                     The C++ Programming Language
Code: **CS 220**
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre–requisites: CS 170
Objectives: The objective of this course is to present the C++ programming language. Along with the C programming language courses, it serves as a foundation to all high level programming courses and projects. The course starts with the presentation of the Object Oriented Paradigms. The presentation of the C++ programming language follows. The various topics of C++ are presented in the same order as the C programming language [CS 120]. The parallel between the presentations of the two languages puts the emphasis on the fact that C is a subset of C++.

Title: **Game Implementation Techniques II**
Code: **CS 230**
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre−requisites: CS 160, CS 180
Objectives: This course discusses the construction of a ray casting engine and its application in game programming. In addition, the course topics cover bitmap manipulation techniques that are used in texture mapping two−dimensional objects.

Title: **Special Topics in Computer Science II**
Code: CS 240
Credits: 3
Type: Computer Science, Theory,
Pre−requisites: None
Objectives: The objective of these courses is to provide theory and rigorous application experience in a variety of current Computer Science Topics.
Such topics may include, but are not limited to:

- HTML language.
- Java and Network Oriented Interpreters.
- Artificial Intelligence.
- Alternate Graphics Engines and APIs.
- Variations on Optimized 3D Representations.
- Loaders, linkers, object format and executable format.

Title: **Computer Graphics II**
Code: **CS 250**
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre−requisites: CS 200
Objectives: This course is the continuation of the Computer Graphics I [CS200] course taken in the previous semester. Particular emphasis is placed on studying the mathematical elements and algorithms used in the generation and viewing of three−dimensional graphic primitives.

Title:	**Computer Networks I**
	Interprocess Communication
Code:	**CS 260**
Credits:	3
Type:	Computer Science, Theory, Compulsory
Pre–requisites:	CS 160, CS 220
Objectives:	This course introduces the hierarchical network communication in a distributed computing environment. The course topics cover the network technologies, architecture and protocols. Hence, it prepares the students for programming multi–player games in later semesters.

Title:	**High Level Programming IV**
	Advanced C++, Designing Classes
Code:	**CS 270**
Credits:	3
Type:	Computer Science, Theory, Compulsory
Pre–requisites:	CS 220
Objectives:	This course presents the Object Oriented Methodologies used in the development of large software projects. Combined with the knowledge acquired in the C++ Programming Language [CS 220] course, students will be able to better manage their game projects and produce reusable code and libraries.

Title:	**Data Structures**
Code:	**CS 280**
Credits:	3
Type:	Computer Science, Theory, Compulsory
Pre–requisites:	CS 220
Objectives:	The objective of this course is to introduce the classical Abstract Data Types (ADT) in Computer Science discipline. The ADTs provide the hierarchical views of data organization used in programming. The course topics cover the algorithms and primitives of the data structure for list, stack, queue, binary tree, and B–tree.

Title:	**Advanced Computer Graphics I**
Code:	**CS 300**
Credits:	3

Type:	Computer Science, Theory, Compulsory
Pre-requisites:	CS 250
Objectives:	This course deals with the advanced topics of Computer Graphics that are involved in viewing three-dimensional environments. Particularly, the course topics cover algorithms used for detecting the visible lines and surfaces of three-dimensional objects.

Title:	**Low Level Programming I**
Code:	**CS 310**
Credits:	3
Type:	Computer Science, Theory, Compulsory
Pre-requisites:	CS 120
Objectives:	This course provides the students with an introduction to microprocessor architecture, as well as the knowledge required to directly address and program the microprocessor and the various hardware devices connected to it. The resulting code is usually faster than similar code written in a high level language such as C or C++. Hence, it has great importance in improving the response speed of real-time interactive programs.

Title:	**Graphics File Format and Data Compression Techniques**
Code:	**CS 320**
Credits:	3
Type:	Computer Science, Theory, Compulsory
Pre-requisites:	CS 160, CS 250, CS 280
Objectives:	This course introduces the concept of storing and retrieving digital images in a coded format. The course topics cover various popular graphic file formats such as PCX, TIFF, GIF, JPEG, DXF, etc.

Title:	**Algorithm Analysis**
Code:	**CS 330**
Credits:	3
Type:	Computer Science, Theory, Compulsory
Pre-requisites:	CS 270, CS 280
Objectives:	The objective of this course is to describe and analyze algorithms on the ADT such as table, queue, binary tree,

and linked list. Particular emphasis is placed on studying the correctness and efficiency of these algorithms.

Title: **Advanced Computer Graphics II**
Code: **CS 350**
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre–requisites: CS 300
Objectives: This course deals with the advanced topics of Computer Graphics that are involved in rendering a three–dimensional environment. Particular emphasis is placed on adding realism to the rendered surface of three–dimensional objects as a result of lighting, shading and texture mapping.

Title: **Low Level Programming II**
Code: **CS 360**
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre–requisites: CS 310
Objectives: The aim of this course is to present the architecture of the hardware used in the implementation of the main, low–level game projects [GAM 300, GAM 350].

Title: **Image Processing**
Code: **CS 370**
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre–requisites: CS 300, CS 320

Objectives: This course introduces some of the popular image processing techniques. The course material covers methods that can be applied in:
     1– Creating special effects with digital images
     2– Preparing graphics information for either human or computer interpretation

Title: **Ray Tracing I**
Code: **CS 400**
Credits: 3
Type: Computer Science, Theory, Compulsory
Pre–requisites: CS 350

Objectives: This course introduces the ray tracing technique in computer graphics. Particular emphasis is placed on studying the mathematical elements of light illumination models, light intersection calculations, and also data structure organization.

Title: **Ray Tracing II**
Code: **CS 450**
Credits: 3
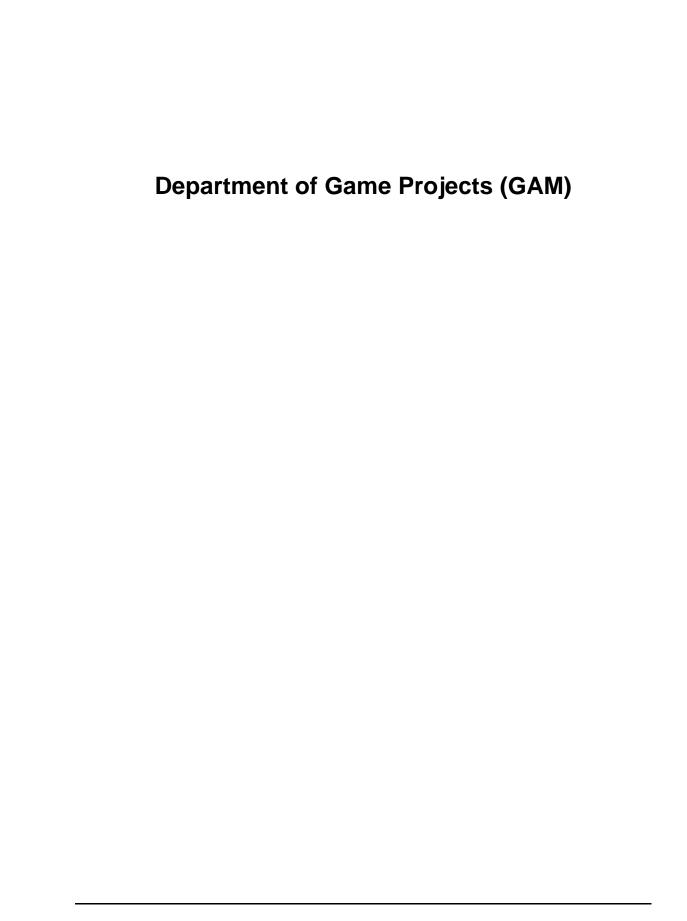**Type:** Computer Science, Theory, Compulsory
Pre–requisites: CS 400
Objectives: This course deals with the advanced topics in ray tracing that are involved in rendering highly detailed digital images. The algorithms discussed in this course include techniques for handling anti–aliased, environmental texture maps, animation, morphing, shadows and light sources.

Department of Game Projects (GAM)

Title:	**Project Introduction**
Code:	**GAM 100**
Credits:	53
Type:	Computer Science, Practical, Compulsory
Pre−requisites:	None
Co−requisites:	CS 100, CS 110, CS 120
Objectives:	

This class is intended to be the basis of the Game Production curriculum for the remainder of the students' time at DigipenDigiPen Institute of Technology.

The students will learn the basics of the following types of programs:

– PERT/CPM Based Project Management software
– Word Processing Application
– Spreadsheet Application
– Presentation (PC Based) Software Program
– Contact Management/Scheduling Program

Once the basics of these packages are covered the student will move onto creating their first written draft game design document for a puzzle game. This part of the course will instruct the students in the format accepted within the industry for draft game designs and using the tools taught the students will create their own unique game design to follow the vision of their title.

After completion of the game design document the student is then instructed in the proper creation of an industry accepted Technical Design Document. Within this part of the course such things as proper scheduling and budgeting will be applied by the student to their own game design.

The final exam for this course will be the submission of a completed game design document and completed technical design document. Following this the student will have all the tools they will require to create the specifications for their games in the coming semesters.

Title:	**Project I**
Code:	**GAM 150**
Credits:	53
Type:	Computer Science, Practical, Compulsory
Pre–requisites:	GAM 100
Objectives:	This project is intended to be the practicum for the courses taught during Semester I and II.

This project is intended to serve as the introduction of the programming tools and languages learned in the previous semester into a functional game on the PC.

The students are given a three–week period to refine the Game Design documents prepared in GAM 100 into an actual Game Design. A puzzle game can be defined as anything within a range from simple matching style games all the way to Interactive fiction titles. Students are tasked to learn the different types of puzzle games, a history of gaming conventions used for puzzle games, as well as the difference between a puzzle game and other genre of gaming. Students will also explore the standard and non–standard ASCII character set as well as simple sprite based graphics for their applications.

The written outline is then evaluated in class and revised into a full game design document that is presented to a panel of instructors for review and grading. Following this the student must prepare a complete Technical Design Document complete with timeline for implementation by their team of the designed project. This written material will be in the format and style covered in GAM100.

Once the technical documentation is complete the students, in teams, progress to actualizing their design into a working game. These final games are judged by a panel. The students are graded on technical merit, originality of idea, as well as quality of documentation and quality of source code commenting.

Title:	**Project 2**
Code:	**GAM 200, GAM 250**
Credits:	5 + 54+4
Type:	Computer Science, Practical, Compulsory
Pre–requisites:	**GAM 200:** GAM 150, CS 160, 170, 180, MAT 150
	GAM 250: GAM 200, MAT 200, CS 200, 230
Co–requisites:	**GAM 200:** MAT 200, CS 200, 230
	GAM 250: CS 250, 260, 270, 280
Objectives:	This project is intended to be the practicum for the courses taught during Semester I, II, III, and IV.

This project is divided into 2 semesters where the students are tasked with designing and implementing a scrolling game engine. Along with being a scrolling engine the students will also explore networking within conventional games, sound, and music as it affects game design during this full year project as well as an introduction to designing games for a multiplayer environment.

Writing a scrolling engine presents several challenges, mainly in the areas of two–dimensional graphics, sprite emulation, management of color lookup tables, double buffering techniques, and loading and saving game states to a recordable medium. Also, the students are given the flexibility to either pursue side–scrolling games or iso–view 360–degree movement games within this project.

Since the project at this stage is intended to be a multiplayer game, the player creates during Semester III a multiplayer game on one system and migrate their game to being networked onto multiple machines during Semester IV. The proposal and implementation of this game follows the same guidelines as for project 2.

Similar to Project 1, the students are given a three–week period to present their ideas in the form of a written game design and Technical Design. The written components must include all the sections described earlier in Project 1 as well as the inclusion of load/save states and configuration management and bug testing/fixing.

Title: **Project 3**
Code: **GAM 300, GAM 350**
Credits: 5 + 55+5
Type: Computer Science, Practical, Compulsory
Pre−requisites: **GAM 300:** GAM 250, CS 250, 260, 270, 280
                          GAM 350: GAM 300, CS 300, 310, 320, 330, GEN 300
Co−requisites: **GAM 300:** CS 300, 320, 330, GEN 300
                          GAM 350: MAT 350, CS 370
Objectives: This project is intended to be the practicum for the courses taught during Semester I, II, III,IV, V and VI

This project is divided into 2 semesters whose focus is on low level programming of a Simulation type game, complete with ArtificalArtificial Intelligence. Given the complexities and nuances of a simulation the teams will remain together for the entire year to work on a specific form of simulation (sport, vehicle, or city management).

A large component of this class will be focused on assembly language coding as well as the requirements for A.I. in games from a simulation perspective. Also, real life physics will be required to be modeled in the projects so an understanding of what this entails will be covered in class.

The different types of A.I. currently used in the industry are discussed and each student team picks a particular discipline and structures a game around this A.I. technique. Along with this students are expected to work sound into their titles as well as serving as an introduction to hardware (configuration) management for sound drivers and various commercially available soundboards.

Simulation games offer the challenges of not only learning how to make machines think and react in a challenging manner, but also requires the student to learn how to program for their target platform(s) in a low level environment as not all platforms support high level languages.

The proposal and implementation of this game follows the same guidelines as for project 3.

Similar to Project 2, the students are given a three−week period to present their ideas in the form of a written game design and Technical Design. The written components must include all the sections described earlier in Project 2 as well as demonstration of understanding of low−level

programming and the ability to define a memory map for their applications.

Title:	**Project 4**
Code:	**GAM 400, GAM 450**
Credits:	5 + 55+3
Type:	Computer Science, Practical, Compulsory
Pre–requisites:	**GAM 400:** GAM 350, CS 350, 360, 370, GEN 350, MAT 350
	GAM 450: GAM 400, MAT 400, PHY 400, CS 400, GEN 400
Co–requisites:	**GAM 400:** MAT 400, PHY 400, CS 400
	GAM 450: MAT 450, PHY 450
Objectives:	This project is intended to be the practicum for the courses taught during Semester I through VIII.

This is a 2–semester project, with a focus on Personal Computer Based 3–D games. The requirements of modeling in a 3–D (as opposed to sprite based) game will be covered as well.

3–D games offer all of the challenges of Projects 1–3, plus the added nuance of management of polygonal (vector based) characters as opposed to sprite based graphics. Furthermore, controllers (analog and digital), and other forms of tertiary input are covered. 3–D games also push the student to manage their memory effectively in order to sustain a high frame rate for polygonal animation.

The game design and technical specifications of this game will follow the same guidelines as for Project 3.

Similar to Project 3, the students are given a three–week period to present their ideas in the form of a written game design and Technical Design. The written components must include all the sections described earlier in Project 3 as well as marketing materials, user manuals, packaging, sell sheets, Focus Group responses and extensive examples of Beta testing and creation of a final deliverable for commercial release.

Title: **Internship**
Code: **GAM 390/490**
Credits: 5 + 51–5
Type: Computer Science, Practical, Compulsory
Pre–requisites: GAM 200, GAM 250, GAM 300
Objectives:

An internship is any carefully monitored work or service experience in which an individual has intentional learning goals and reflects actively on what she or he is learning throughout the experience. It is usually a professional activity under general supervision of an experienced professional, in a job situation, which places a high degree of responsibility on the student. The learning goals of an internship may include:

- Academic learning – the individual can apply knowledge learned in the classroom to the workplace;
- Career development – the individual gains a knowledge of the qualifications and duties of a position and can explore their interest in a field;
- Skill development – the individual gains an understanding of the skills and knowledge required in the workplace;
- Personal development – the individual gains decision–making skills, critical thinking skills, increased confidence and self–esteem.

Department of General EducationStudies (GEN)

General Education Courses:

Title:	**Art Appreciation**
Code:	**ART 210**
Credits:	3 _or_ 2
Type:	General Studies, Theory, Compulsory
Pre–requisites:	None

Objectives:

This course is an introduction to art and will provide students with a better understanding of the artistic influences of our modern culture. In helping students gain basic awareness, knowledge, and enjoyment of the visual arts, the course should provide the groundwork for further personal study in the arts. This in turn will help them further develop their own creativity. Along with the history of art, students will study the meanings, purposes, styles, elements, and principles of art and the various media used to create works of art.

Title:	**Drawing Fundamentals**
Code:	**ART 400**
Credits:	2
Type:	General Studies, Theory, Compulsory
Pre–requisites:	None

Objectives:

The development of strong drawing skills is of extreme importance as they are essential tools for expressing ideas, particularly during the pre–production stages of an animation project. Therefore, the objective of this course is to present the basic elements of drawing and graphic design in order to improve the students' practical ability to draw with skill and imagination. Methods of observing, describing and organizing form will be covered using various mediums such as pencil, charcoal, and color pencils.

Title:	**Composition**
Code:	**ENG 110**
Credits:	3
Type:	General Studies, Theory, Compulsory
Pre–requisites:	None

Objectives:

George Leonard wrote: "To learn is to change. Education is a process that changes the learner." Writing is also a process, which changes the writer. In this practical course in composition, students will spend time generating ideas for writing, sharing and critiquing their writing and ideas,

changing their ideas, and learning more about themselves as a result. Emphasis will be placed on using writing as a tool to explore and discover their thought processes, beliefs, and world concepts.

Students will employ writing as a tool to develop critical thinking skills. In the process of organizing ideas and, subsequently, manifesting those ideas into various compositional styles and forms, students will become conscious of the concepts which have shaped and are continually shaping their personal realities.

Title:	**Mythology for Game Designers**
Code:	**ENG 150**
Credits:	3
Type:	General Studies, Theory, Compulsory
Pre–requisites:	ENG 110

Objectives:

When filmmaker George Lucas conceived his script for the *Star Wars* series, he consciously dressed some standard mythological figures in futuristic clothing. The result is an amazing work of art that appeals to wide audience and endures the test of time. The power of myth resides in its ability to touch the essence of our humanity and put meaning into our lives. Artists, filmmakers, game designers, and writers have appropriated elemental mythological premises and 'updated' them to create modern myths accessible to contemporary audiences. Whether are playing a role–playing game wherein the task is to rescue the princess and save the planet, reading the latest cyberpunk novel, or watching an animated Disney classic, our psyches are being touched by the power of mythology.

This course is an overview and analysis of cross–cultural mythology presented as prose, film, and game. The idea that myths have influenced cultures of the past and continue to inform and influence our culture of today will be discussed in depth throughout the course. The course will also examine the practical use of myth. Emphasis will be placed on the monomyth of the hero's journey and how a game developer may redefine the archetypal figures and adventures therein and incorporate them in a game design.

Title:	**Creative Writing for Game Design**
Code:	**ENG 400**
Credits:	3
Type:	General Studies, Theory, Compulsory
Pre–requisites:	ENG 150

Objectives:

Game design is a multi–media art form wherein the goal is to create an interactive game environment. The student of game design is called upon to don the cloak of a magus and fabricate other worlds and characters, which will enable the player to commence on a journey full of fun, excitement, and entertainment. Accessing the imagination is the first step towards developing a great design. Conceptualizing and communicating the idea via a formal game design document is the second step. Marketing the game to a publisher is the third step.

Creative Writing for Game Design will focus on interactive storytelling, threads and multiple end–game scenarios, the construction of a game design document, and basic story–telling skills. Exercises designed to brainstorm ideas and hone students' talents of characterization; exposition, plot, conflict, back–story, dialogue, and appropriate use of language will be presented. Students will learn how symbols, graphic style, and sound can be utilized in telling the story of their game. Students will create a character bible, a story bible, and also be encouraged to access their own cultures and life experience and transform it into creative material. At the end of the course, students will write a game design document.

Title:	**Elements of Media for Game Developers**
Code:	**ENG 450**
Credits:	3
Type:	General Studies, Theory, Compulsory
Pre–requisites:	None

Objectives:

T.S. Eliot once wrote: " 'B' writers create; 'A' writers steal." While it is important to note that he was in no way encouraging plagiarism, the acclaimed poet was suggesting that any form of art and technology is necessarily grounded on its precedents. The same is true with game development and design. While interactive media is as different an art form from film as film is from graphic novels, or as literature

is from poetry, each of these art forms, respectively, has something to learn from its parent.

In this course, students will be introduced to the principles of film and other non–game forms of media. Students will review technologically and artistically groundbreaking media. Emphasis will be placed on analyzing film, TV, and even graphic novels and examining how certain elements of historical and modern media can be adapted to the burgeoning industry of game and interactive media development. Students will have an opportunity to brainstorm how they, as future programmers and designers, might borrow from the masters of 20th century media and utilize such knowledge to surpass the current boundaries of interactive media products.

Title:	**Thought, Cognition and Creativity**
Code:	**SOS 150**
Credits:	3
Type:	General Studies, Theory, Compulsory
Pre–requisites:	None

Objectives:
The fast paced game industry asks now for deeper psychological understanding of the drive that lies behind people's need in general to participate in a variety of games and game types. Furthermore, producers are constantly searching for even more intuitive interfaces to present new and complex concepts, animations or ideas. What makes an interface intuitive? What makes it appealing to a certain market? Why do certain audiences respond the way they do to different game themes? What is creativity? What is art? How do we choose a style? What is new?

These questions are partly what this course will cover by through theories and concepts from subjects as diverse as the history of art, architecture, mathematics, the sciences, human behavior and values. The course challenges the intellect to be able to understand what psychological and cognitive issues are behind the notion of right and wrong, beauty and ugliness, and relativity vs. absoluteness within the frame of creativity. Practical, graphical and theoretical exercises are incorporated into the course.

Title: **3D Computer Animation Production I**

Code: **GEN 300**

Credits: 3

Type: General Studies, Theory, Compulsory

Pre–requisites: None

Objectives: This course deals with all the basic theories and techniques utilized in the production of computer animation. Students are introduced to a computer–based 3D animation package, which they will use throughout the course.

Title: **3D Computer Animation Production II**

Code: **GEN 350**

Credits: 3

Type: General Studies, Theory, Compulsory

Pre–requisites: GEN 300

Objectives: This course builds on the fundamentals taught during GEN 300. Students learn about keyframingkey framing, special effects, final rendering, and recording.

Title: **Multimedia Aspects of Game Making I**

Code: **GEN 400**

Credits: 3

Type: General Studies, Theory, Compulsory

Pre–requisites: None

Objectives: With the introduction into the market of high–level tools allowing the assembly of video games from a set of pre–programmed components, game programmers can very quickly assemble games. More often than not, these games lack optimization and are more suitable for prototyping or creating interactive, multi–media presentations. Some of these tools include high–level programming languages in addition to the click and point Graphic User Interface.

Title: **Multimedia Aspects of Game Making II**

Code: **GEN 450**

Credits: 3

Type: General Studies, Theory, Compulsory

Pre–requisites: GEN 400

Objectives: In this second section of the course, students take the knowledge gained in GEN 400 and apply it in the creation of a game, or an interactive portfolio.

Associate of Applied Arts Degree in 3D Computer Animation

Program Overview

As the 3D computer animation industry matures, there is a noticeable shift by companies to hire employees that demonstrate more than a working knowledge of a specific commercial 3D software package. More than ever, employers desire computer animators who have strong content creation skills. Studios like to see strong traditional art skills in addition to an understanding of fundamental animation principles. Story development, character design, storyboarding, lighting, camera composition, and sound design are some of the other issues that animators must have a good grasp of if they wish to be successful.

DigiPen's **Associate of Applied Arts Degree in 3D Computer Animation** seeks to achieve the following:

- To provide students with the necessary practical skills using industry–standard, computer hardware and software.
- To educate students about creative content issues to ensure that they have the ability to maximize the fullest potential of this digital medium.
- To help students develop a strong work ethic needed by successful production artists including the ability to work with others and to complete the work by the deadline.

- To allow students to express themselves artistically while ensuring that a student's portfolio work is marketable to industry companies.
- To implement a production oriented environment that will allow students to produce a high quality portfolio.

The intensive theory courses will be reinforced through multiple production cycles whereby students will be expected to complete several animation productions.

The **Associate of Applied Arts Degree in 3D Computer Animation** program consists of eighty (80) credits offered over four (4) semesters of fifteen (15) weeks each. The credits are divided into sixty (60) theory credits and twenty (20) practical credits in the form of four (4) semester–long, animation projects.

Length

The **Associate of Applied Arts Degree in 3D Computer Animation** program consists of eighty (80) credits offered over four (4) semesters of fifteen (15) weeks each. The credits are divided into sixty (60) theory credits and twenty (20) practical credits in the form of four (4) semester–long, animation projects.

Admission

As a minimum requirement, all applicants must meet the following conditions:

- Applicants to the full–time program must be 18 years and older.

- Completed Grade 12 or High School equivalence with a minimum of a 2.5 overall GPA.

- Must provide official grade transcripts from the past three (3) years of schooling.

- The applicants must supply a minimum of ten (10) samples from their art portfolio that demonstrate their artistic range, preferably of original design. In particular, figure/animal studies, character designs, architectural renderings, landscape studies, sculpture, and painting. If necessary, DigiPen may request more samples for review. Please note that applicants

should submit copies (i.e. photographs, slides, photocopies) of their portfolio submissions, as they will not be returned.

- Proficiency in the English language. Non–native English speakers must provide a minimum TOEFL score of 550.

- Must provide at least two (2) reference letters from past or current instructors/employers.

Applicants will be required to write the entrance examination of the Institute. This exam is given to ensure that the applicants have the proper background to pursue the studies offered during the program. The main areas to be tested are:

- Perspective drawing
- Figure drawing
- Use of color

All applicants must pass the screening of the advisory committee.

Please note that these are the minimum requirements only, and that the actual minimum cutoff may be higher due to the quality of applications received.

Books and Material Costs (Not included in tuition fees)

Books and course material costs are estimated to be US $600.00 per year.

Passing

In addition to the pre–requisites set forth in the beginning of the Calendar, students must successfully complete all 100 level PRJ courses in order to proceed to any 200 level courses.

Associate of Applied Arts Degree Requirements

Requirements	Credits
ANI 100	3
ANI 110	3
ART 100	3
CG 100	3
ENG 100	3
PRJ 100	5
	20
ANI 150	3
ART 150	3
ANI 160	3
CG 150	3
FLM 100	3
PRJ 150	5
	20
INT 190 (Elective)	5
	4
ART 200	3
ART 210	3
CG 200	3
ENG 200	3
FLM 200	3
PRJ 200	5
	20
ANI 250	3
ANI 260	3
ART 250	3
CG 250	3
FLM 250	3
PRJ 250 (or INT 190)	5

	20
	80

LIST OF ALL COURSES OFFERED (Listed by topic)

ART

ART 100	Drawing Fundamentals I	(3 Credits)
ART 150	Drawing Fundamentals II	(3 Credits)
ART 210	Art Appreciation	(3 Credits)
ART 200	Drawing Fundamentals III	(3 Credits)
ART 250	Drawing Fundamentals IV	(3 Credits)

ANIMATION

ANI 100	Animation – Theory & Techniques I	(3 Credits)
ANI 110	Project Management	(3 Credits)
ANI 150	Animation – Theory & Techniques II	(3 Credits)
ANI 160	Sound Design for Animation	(3 Credits)
ANI 250	Acting for Animation	(3 Credits)
ANI 260	Industry Preparation	(3 Credits)

FILM

FLM 100	Cinematography	(3 Credits)
FLM 200	Visual Language & Film Analysis	(3 Credits)
FLM 250	Post–production	(3 Credits)

COMPUTER GRAPHICS

CG 100	3D Computer Animation Production I	(3 Credits)
CG 150	Digital Graphics Tools	(3 Credits)
CG 200	3D Computer Animation Production II	(3 Credits)
CG 250	Graphics for Games & Internet	(3 Credits)

ENGLISH

ENG 100	Creative Writing	(3 Credits)
ENG 200	Literature	(3 Credits)

PROJECTS

PRJ 100	Animation Production I	(5 Credits)
PRJ 150	Animation Production II	(5 Credits)
PRJ 200	Animation Production III	(5 Credits)
PRJ 250	Animation Production IV	(5 Credits)
INT 190	Internship in 3D Animation	(5 Credits)

ART

ART 100	Drawing Fundamentals I
ART 150	Drawing Fundamentals II
ART 210	Art Appreciation
ART 200	Drawing Fundamentals III
ART 250	Drawing Fundamentals IV

ANIMATION

ANI 100	Animation – Theory & Techniques I
ANI 110	Project Management
ANI 150	Animation – Theory & Techniques II
ANI 160	Sound Design for Animation
ANI 250	Acting for Animation
ANI 260	Industry Preparation

FILM

FLM 100	Cinematography
FLM 200	Visual Language & Film Analysis
FLM 250	Post–production

COMPUTER GRAPHICS

CG 100	3D Computer Animation Production I
CG 150	Digital Graphics Tools
CG 200	3D Computer Animation Production II
CG 250	Graphics for Games & Internet

ENGLISH

ENG 100	Creative Writing
ENG 200	Literature

PROJECTS

PRJ 100	Animation Production I
PRJ 150	Animation Production II
PRJ 200	Animation Production III
PRJ 250	Animation Production IV

COURSES REQUIRED FOR ASSOCIATE OF APPLIED ARTS DEGREE IN 3D COMPUTER ANIMATION (listed by Semester)

Semester 1 (18 Credits)

ANI 100	Animation – Theory & Techniques I
ANI 110	Project Management
ART 100	Drawing Fundamentals I
CG 100	3D Computer Animation Production I
ENG 100	Creative Writing
PRJ 100	Animation Production I

Semester 2 (18 Credits)

ANI 150	Animation – Theory & Techniques II
ART 150	Drawing Fundamentals II
ANI 160	Sound Design For Animation
CG 150	Digital Graphics Tools
FLM 100	Cinematography
PRJ 150	Animation Production II

Summer Workshop (Optional, No Credits) Internship 190 (4 credits)

Full–time animation production

Semester 3 (20 Credits)

ART 200	Drawing Fundamentals III
ART 210	Art Appreciation
CG 200	3D Computer Animation Production II
ENG 200	Literature
FLM 200	Visual Language & Film Analysis
PRJ 200	Animation Production III

Semester 4 (20 Credits)

ANI 250	Acting for Animation
ANI 260	Industry Preparation
ART 250	Drawing Fundamentals IV
CG 250	Graphics for Games & Internet
FLM 250	Post–Production
PRJ 250	Animation Production IV

	Monday to Friday	Saturday
09:00–10:00	Theory/Lecture – 3 credits	Free Lab (Mon. homework hr. 6)

10:00–11:00	(3 hrs. + 6 hrs. homework per	Free Lab (Tue. homework hr. 6)
11:00–12:00	week for the whole of the semester)	Free Lab (Wed. homework hr. 6)
12:00–13:00	**Lunch Break**	Free Lab (Thu. homework hr. 6)
13:00–14:00	Practical – 1 credit	Free Lab (Fri. homework hr. 6)
14:00–15:00	(3 hrs. of Laboratory per	
15:00–16:00	week for the whole of the semester)	
16:00–17:00	Free Lab (homework	
17:00–18:00	of same day lecture hrs. 1 and 2)	
18:00–19:00	**Dinner Break**	
19:00–20:00	Free Lab	
20:00–21:00	(homework of same day lecture hrs.	
21:00–22:00	3, 4, and 5)	

As an example, the time table above indicates that theory lectures are three (3) hours long. Lectures are given from Monday to Friday from 9:00 am until 12:00 pm. The laboratory is open for homework studies for a period of six (6) hours after each lecture. Five (5) of the six hours are scheduled on the same day of the lecture from 16:00 until 18:00 and from 19:00 until 22:00. The sixth hour is scheduled on Saturday. Furthermore, the homework laboratory time is supervised between 16:00 and 18:00. This gives the students the opportunity to get assistance during the first two hours of their homework time. This daily workload model allows a workload of 4 credits/day/semester**:** three (3) "theory" or "lecture" credits and one (1) "practical" or "project" credit.

The Weekly And Semester Workload

The workload for a typical week is shown in the table below. Five different theoretical courses, each worth three (3) credits, are presented each semester. A practical project worth five (5) credits must also be

completed. A total of twenty (20) credits are offered each semester. The 20 credits are divided as follows:

- Fifteen (15) theory credits
- Five (5) practical credits

SAMPLE WEEKLY TIMETABLE

	Mon.	Tue.	Wed.	Thurs.	Fri.	Sat.
09:00–10:00	Lecture 1 (3 Credits)	Lecture 2 (3 Credits)	Lecture 3 (3 Credits)	Lecture 4 (3 Credits)	Lecture 5 (3 Credits)	Free Lab for Lectures
10:00–11:00						
11:00–12:00						
12:00–13:00	Lunch Break					
13:00–14:00	Main Project of the Semester (5 Credits)					
14:00–15:00						
15:00–16:00						
16:00–17:00	Lab Lecture 1	Lab Lecture 2	Lab Lecture 3	Lab Lecture 4	Lab Lecture 5	
17:00–18:00						
18:00–19:00	Dinner Break					
19:00–20:00	Free Lab	Free Lab	Free Lab	Free Lab	Free Lab	
20:00–21:00						
21:00–22:00						

Courses Offered

The courses that are offered are organized into six major categories:

- **Art**
- **Animation**
- **Film**
- **Computer Graphics**
- **English**
- **Projects**

Course Codes

Each course code consists of three digits:

- The first digit represents the year in which the course is being offered.
- The second digit represents the serial number of the course in its category. This number often represents the level of difficulty of the course within that category.

- The third digit represents the advanced level of a course that is offered in the same semester.

Department of Art (ART)

Title: **Drawing Fundamentals I**

Code: ART 100
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: None
Objectives: The development of strong drawing skills are of extreme importance as they are essential tools for expressing ideas, particularly during the pre–production stages of an animation project. Therefore, the objective of this course is to present the basic elements of drawing and graphic design in order to improve the students' practical ability to draw with skill and imagination. Methods of observing, describing and organizing form will be covered using various mediums such as pencil, charcoal, and color pencils.

Title: **Drawing Fundamentals II**
Code: **ART 150**
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: **ART 100**
Objectives: Whereas the focus of ART 100 was on basic principles for drawing objects, this course presents concepts for drawing the figure. Attention will be given to anatomy, conceptualizing form and approaches to overcoming difficult poses. In addition to quick sketches, students will also do longer, more complete drawings to describe form with tone.

Title: **Art Appreciation**
Code: **ART 210**
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: **None**
Objectives: This course is an introduction to art and will provide students with a better understanding of the artistic influences of our modern culture. In helping students gain basic awareness, knowledge, and enjoyment of the visual arts, the course should provide the groundwork for further personal study in the arts. This in turn will help them further develop their own creativity.

Along with the history of art, students will study the meanings, purposes, styles, elements, and principles of art and the various media used to create works of art.

Title:	**Drawing Fundamentals III**
	Code: **ART 200**
Credits:	3
Type:	Art, Theory, Compulsory
Pre–requisites:	**ART 150**
Objectives:	The first half of this course introduces students to the techniques for drawing both real and fantasy wildlife. The second half addresses the general concepts of set design with an emphasis on aspects useful for animators.

Title:	**Drawing Fundamentals IV**
	Code: **ART 250**
Credits:	3
Type:	Art, Theory, Compulsory
Pre–requisites:	**ART 200**
Objectives:	This course focuses around personal development of each artist. At the beginning of the course, each student consults with the instructor to develop a unique study outline that will address areas of artistic weakness or artistic exploration. Students will also utilize this class to refine existing work for their portfolio in preparation for graduation.

Department of Animation (ANI)

Title: Animation – Theory & Techniques I

Code: ANI 100
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: None
Objectives: This course introduces students to the principles of animation through classical animation techniques. In addition to examining the important aspects of character design and development, there will be an emphasis on the art of creating convincing movement through good timing and motion design. Students will learn that movement makes an appealing character, not just look or design.

Title: Project Management
Code: ANI 110
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: None
Objectives: The success of an animation is dependant on more than just talented artists. Ultimately, the planning and management of a production has great impact on whether the animation is completed to an acceptable level by the deadline. Production agreements, licensing, scheduling, and resource allocation are just some of the things that every commercial production must face. The students' final assignment is to prepare a production and pitch a concept to the class.

Storyboarding will be given extra emphasis as students are expected to produce industry–standard storyboards based on verbal or written descriptions. Both technical storyboarding issues (i.e. panel design, action notes, camera moves, dialogue) and creative storyboarding issues (i.e. rough staging, composition, cutting, continuity) will be presented.

Title: Animation – Theory & Techniques II

Code:	**ANI 150**
Credits:	3
Type:	Art, Theory, Compulsory
Pre–requisites:	**ANI 100**
Objectives:	Building on the animation concepts presented in ANI100, students will refine and combine the various skills with more confidence, creativity and accuracy. Further study in character design will cover issues such as personality types, body language and attitudes.
	Longer and more rigorous exercises offer an opportunity for each student to develop the acting abilities that are central to good animation and to begin to explore their personal style. Students will also look at the techniques for animating dialog as well as animals.

Title:	**Sound Design for Animation**
Code:	**ANI 160**
Credits:	3
Type:	Art, Theory, Compulsory
Pre–requisites:	**None**
Objectives:	Every good animation relies on a well–designed soundtrack to enhance the production. While most animators do not produce the soundtrack themselves, they need to understand the effect of music, voice, and sound effects on an audience. More importantly, animators must be able to communicate their ideas to today's musician, who has a multitude of sound production tools at his or her disposal. Initially, students will survey a broad range of music from different eras of Western and non–Western cultures. Emphasis will be on developing basic listening skills in hearing rhythm, melody, harmony, color, texture and form. The latter portion of the course will focus on soundtrack design and production issues.

Title:	**Acting for Animation**
Code:	**ANI 200**
Credits:	3
Type:	Art, Theory, Compulsory
Pre–requisites:	**ANI 100, ANI 150**
Objectives:	An animator's ability to express attitude, thought, and emotion through body language is a fundamental skill necessary for success. Therefore, the focus of this course is

to present tools and techniques for translating thoughts and feelings into specific gestures and actions.

Title: **Industry Preparation**

Code: **ANI 250**

Credits: 3
Type: Art, Theory, Compulsory
Pre−requisites: **ANI 100, ANI 150**
Objectives: As animation students approach graduation, they must compile their best work in a clear and concise package to effectively communicate their creative and technical abilities. This course will focus on helping each student prepare a commercially marketable portfolio and will also present employment options ranging from seeking a posted position to working freelance or even establishing a business.

Department of Film (FLM)

Title: Cinematography
Code: FLM 100
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: **None**
Objectives: Like a director of photography, computer animators must have a good understanding of appropriate camera composition and lighting techniques to enhance the visual impact of the story being told. Appropriate composition and camera motion help to reveal the action while lighting can set the mood and highlight a desired element of a scene. Students will analyze examples of effective cinematic techniques from different animations and films to study the various approaches used. Assignments will utilize still and video cameras to reinforce concepts presented.

Title: **Visual Language & Film Analysis**
Code: **FLM 200**
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: **ANI 110, ENG 100, ANI 160, FLM 100**
Objectives: Animation is ultimately "film making" and animators should learn from the many "classics" how to effectively bring various film production elements together. Building on the courses presented in the first year, students will review several films to look deeper at issues such as character and script development, cinematography, and musical scores. Understanding the creative processes utilized by the influential filmmakers will provide insight into how a student can produce a better film.

Title: **Post–Production**
Code: **FLM 250**
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: **ANI 110, ENG 100, ANI 160, FLM 100, FLM 200**
Objectives: The last step of any animation project involves the assembly of various production elements ranging from rendered files to sound effects. This is also the stage where the visual effects seen in today's movies are added. The focus of this course is to teach the fundamental skills that are used in post–production. While students will spend most of their time learning how to edit effectively, they will also cover

material regarding the planning, execution, and addition of "special effects."

Department of Computer Graphics (CG)

Title: **3D Computer Animation Production I**
Code: **CG 100**
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: **None**
Objectives: This course covers all of the general principles of computer graphics and introduces students to the primary 3D computer animation software that will be used to create the various productions. In addition, students will be taught how to use a 2D paint package for the creation of maps.

Title: **Digital Graphics Tools**
Code: **CG 150**
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: **CG 100**
Objectives: 3D computer animators utilize a great deal of technology that is constantly changing. Therefore, it is important that students be aware of and understand recent developments in both the hardware and software industries. The first part of the course will discuss various hardware components as well as current software applications. The second part will provide more extensive training in a 2D paint package, which is one of the most important tools a 3D animator must use. This will build on the training provided in CG 100.

Title: **3D Computer Animation Production II**
Code: **CG 200**
Credits: 3
Type: Art, Theory, Compulsory
Pre–requisites: **CG 100**
Objectives: In order to provide the students with a broader skill set, this course presents the "mechanics" of how to use another 3D animation program, with an emphasis on the unique strengths of the package.

Title: **Graphics for Games & Internet**

Code:	**CG 250**
Credits:	3
Type:	Computer Graphics, Theory, Compulsory
Pre–requisites:	**CG 100, CG 150**
Objectives:	The tremendous growth of the video game industry and internet has resulted in a high demand for good 2D and 3D artists. Limited color palettes, file size, file formats, and low–resolution 2D images/3D objects are some of the issues that need to be handled properly for implementation into a game or web site. This course examines the issues in creating graphics for these areas and teaches effective production techniques.

Department of English (ENG)

Title:	**Creative Writing**
Code:	**ENG 100**
Credits:	3
Type:	Art, Theory, Compulsory
Pre–requisites:	**None**

Objectives: Fundamentally, a good animation requires a good story. This course introduces students to the fine art of writing and more importantly, provides an understanding of the elements of a good story. Towards the end of the course, students will learn the process of converting a story into a properly formatted script.

Title:	**Literature**
Code:	**ENG 200**
Credits:	3
Type:	Art, Theory, Compulsory
Pre–requisites:	**ENG 100**

Objectives: Students are given an overview on influential works of literature from various periods and countries in order to examine the fundamental elements that have helped these stories "stand the test of time." Providing a basic knowledge and appreciation for these works is important, as they are an incredible source of inspiration. Many of these literary works have been adapted into screenplays that were ultimately produced as films or theatrical events. Towards the end of the course, students will have an opportunity to review the films/animations and analyze whether the productions were successful or not.

Department of Projects (PRJ)

Title: **Animation Production I**
Code: **PRJ 100**

Credits: 5
Type: Practical, Compulsory
Pre–requisites: **Full–time registration in Semester 1**
Objectives: Each semester, the students are expected to create animations that will ultimately comprise a portfolio showcasing their creative and technical skills. Students treat each project as a commercial production whose deadline at semester's end must be met. Weekly production meetings with an instructor ensure that the animation stays on track while aiming for a high standard of quality. Generally, the student decides the subject of the animation, but the instructor must consider the undertaking both commercially marketable and inoffensive in nature. DigiPen reserves the right to refuse any student production proposal that it deems inappropriate.

The production cycle for each project generally follows the following path:
- Pre–production – concept, scripting, form and motion research, character design, set design, storyboarding, timing tests, lighting design, sound design and final instructor approval.
- Production – modeling, application of materials and textures, animation, rendering, compositing, and inclusion of credits.
- Post–production – final edit and soundtrack production.

As each production comes to its conclusion, planning begins for the next. Therefore, students are in a constant production mode and are expected to produce quality work while maintaining a high level of professionalism at all times. Failure to meet this standard may result in expulsion from the program.

For the first project, each student will be required to create a series of short animations that primarily demonstrate technical proficiency with the software. The exercises also demonstrate the student's understanding with regards to many of the creative concepts presented during the semester. Exercises will include elements of modeling,

material creation/application, animation, lighting, camera composition, and editing.

Title:	**Animation Production II**
	Code: **PRJ 150**
Credits:	5
Type:	Practical, Compulsory
Pre–requisites:	**Full–time registration in Semester 2**
Objectives:	The focus of this project is for each student to produce an animation from initial concept to final rendering. This project is the first real opportunity for a student to experience the many creative and technical issues associated with producing a full animation. In addition, students must learn how to strike a balance between creating their best work and meeting the production deadline.

General guidelines include:
- Productions are to be no longer than 1 minute in length (excluding credits) without specific instructor approval.
- The subject of the production is generally left to the discretion of each student. However, the instructor must consider the project to be both commercially marketable and inoffensive in nature. DigiPen reserves the right to refuse any student production proposal that it deems inappropriate.

Title: **Animation Production III**
Code: **PRJ 200**
Credits: 5
Type: Practical, Compulsory
Pre–requisites: **Full–time registration in Semester 3**
Objectives: This project is an opportunity for a group of students to work together towards the completion of a project. Production teams are assembled by the instructor and can decide on one of the following options:

- A team may request to be assigned a non–profit organization to produce work for. There is no better simulation for understanding what "real" production is like than by working for a client. This option is reserved for students who have shown both exceptional professionalism and technical competency with the tools. DigiPen does not guarantee that clients will be available but it will try its best to fulfill student requests.

- A team can opt to create a production of their own design. These productions generally range from 2–3 minutes in length and must be found by the instructor to be both commercially marketable and inoffensive in nature. DigiPen reserves the right to refuse any student production proposal that it deems inappropriate.

- Production lengths must be instructor approved.

General guidelines include:

If the instructor feels that a student needs more personal skill development, that student will not be permitted to participate in a group project but will be guided through another animation that addresses the deficiencies.

Title: **Animation Production IV**
Code: **PRJ 250**

Credits: 5
Type: Practical, Compulsory
Pre–requisites: **Full–time registration in Semester 4**
Objectives: This final project is decided upon after discussions between the student and the instructor. Generally, all work produced to date is reviewed and weaknesses are identified. At that time, students will plan an animation or series of animations to address these areas of the portfolio.

General guidelines include:
- Productions are to be no longer than 1 minute (excluding credits) in length without specific instructor approval.
- The subject of the production is generally left to the discretion of each student, however, the instructor must consider the production both commercially marketable and inoffensive in nature. DigiPen reserves the right to refuse any student production proposal that it deems inappropriate.

DigiPen Institute of Technology
Faculty Roster – Fall 2000

Computer Science		
Bruce McQuistan*	B.A. Mathematics	Reed College
	M.S. Mathematics	University of Washington
Jason Hanson	B.S. Mathematics	University of Massachusetts
	M.S. Physics	University of Virginia
	M.A. Mathematics	Columbia university
	Ph.D. Mathematics	University of Hawaii
Tyler C. Folsom	B.S. Mathematics	Villanova University
	M.A. Mathematics	University of Maryland
	M.S.E.E. Electrical Engineering	University of Washington
	Ph.D. Electrical Engineering	University of Washington
Matt Grove	B.A. Mathematics	Reed College
Prasanna Ghali	B.S. Electrical Engineering	Osmania University (India)
	M.S. Electrical Engineering	University of Oklahoma
Peter Mason	B.A. Mathematics	Reed College
	M.S. Mathematics	University of Washington
Nathan Ukrainetz	B.S. Electrical Engineering	University of Saskatchewan (Canada)
	B.S. Computer Science	University of Saskatchewan (Canada)
Hao Wu	B.S. Electrical Engineering	Tsinghua University (China)
	M.S. Electrical Engineering	University of Washington
Claude Comair	M.S. Environmental Engineering	Osaka University
Samir Abou–Samra	M.S. Electrical Engineering	American University (Lebanon)
Xin Li	B.S. Computer Science	Northwest University (China)
	M.S. Computer Science	Academic Sinica (China)
	Ph.D. Computer Science	University of Central Florida
Mathematics		
Michael Jahn*	B.S. Mathematics	Southern Methodist University
	B.S. Electrical Engineering	Southern Methodist University
	Ph.D. Mathematics	University of Wisconsin–Madison
Matt Klassen	B.S, Mathematics	University of Arizona
	Ph.D. Mathematics	University of Arizona
Charles Duba	B.S. Physics	University of California–San Diego
	M.S. Physics	University of Washington
Game Design and Production		
Philip Alne	B.A. Political Science	San Jose University

	M.A. Business Administration	Santa Clara University
Christopher Erhardt*	B.Sc. Human Resources & Organizational Behavior	University of San Francisco
Art/Animation		
Raymond Yan*	A.S. Broadcasting	British Columbia Institute of Technology
Melvin Gonsalvez	Certificate Art Merchandising	Vancouver Community College
	Certificate Building Techn. Archit.	British Columbia Institute of Technology
Eric Brown	B.A. Photography/Cinematography	Brooks Institute
Lawrence Schwedler	B.A. Music	University of California at Los Angeles
	M.F.A.	University of California at Los Angeles
Kari Rust	A.A. General Arts	Kwantlen College (Canada)
	Diploma Fine Arts/Animation	Emily Carr College of Art and Design
	B.F.A. Fine Arts	Open University (Canada)
Jay Gale	B.A. Broadcast Communications	University of Colorado

General Education		
Cedric Page*	B.A. Geography	Syracuse University
	M.A. Geography	Rutgers University
	Ph.D. Geography	Rutgers University
Farid Schoucair	B.S. Graphic Design	American University (Lebanon)
	M.A. Business Administration/Cognition	McGill University (Canada)
Argentina Daley	B.A. Comparative Literature	University of Washington
	M.A. English	University of Washington
	Ph.D. English	University of Washington
Claire Joly	B.A. English Language & Literature	La Sorbonne (France)
	M.A. American Studies	La Sorbonne (France)
	M.A. Theatre & African American Studies	Smith College
	Ph.D. Comparative Cultures	University of California–Irvine

History of DigiPen

Founded in 1988, DigiPen began as a computer simulation and animation company. Frustrated with the lack of qualified computer graphics employment candidates, DigiPen decided to offer training in the area of 3D computer animation. After three to four years, the city of Vancouver became known as an excellent source of computer animators. In 1991,discussions with Nintendo of America initiated the idea of offering educational training in the area of computer/video game programming. Nintendo and other video game development companies have constantly expressed the need for qualified game programmers.

With advisory support from Nintendo of America, DigiPen's engineers developed a two–year program with a unique curriculum in video game programming. In 1993, DigiPen Applied Computer Graphics School opened in Vancouver, BC, Canada, offering programs in computer/video game programming as well as continuing the training in 3D Computer Animation. Prior to DigiPen's course offering in video game programming, this type of training was unheard of in North America. The inaugural class graduated in 1996, nineteen graduates gathered about thirty job offers from various game development companies, such as Nintendo, Iguana, Sierra Online, Konami, Electronic Arts, Bandai Entertainment, and Sony of America.

To fulfill the growing number of positions available in the digital entertainment industry, DigiPen decided to offer a unique degree program–a Baccalaureate of Science in Real–Time Interactive Simulation. As many of DigiPen's students came from the US, DigiPen decided to apply to the Washington State Higher Education Coordinating Board for the authorization to grant such a degree. The authorization was received in 1996. DigiPen Institute of Technology was opened in Redmond, WA in January 1998, offering both Baccalaureate and Associate degree programs in Real–Time Interactive Simulation. In September 1999, DigiPen added an Associate degree program in 3D Computer Animation to the programs available.

Today we continue to fulfill the needs of the interactive simulation and 3D computer animation industries, and to encourage our students to learn the skills and knowledge necessary to succeed in their field of training.