



COURSE CATALOG ADDENDUM

2014-2015

Updated September 4, 2014

Contents

GENERAL INFORMATION	4
Campus List	4
History of DigiPen Institute of Technology	4
Awards	4
About DigiPen’s Facilities	4
Voter Registration	4
Military Active Duty Policies for Students and Military Dependents	4
IMPORTANT DATES	5
Academic Calendar	5
Deadlines	6
TUITION AND FEES	7
Parking	7
FINANCIAL ASSISTANCE	7
The Role of the Office of Financial Aid	7
Who Can Apply	7
How to Apply	7
Types of Financial Aid	7
Veterans Benefits	8
Loans	9
Federal Direct Loan Program	9
Private Loans	9
Enrollment Requirements for Financial Aid Eligibility	9
Study Abroad for Federal Student Aid Eligibility	9
Satisfactory Academic Progress for Financial Aid	9
Washington State Need Grant Satisfactory Academic Progress Policy	10
Withdrawal from the Institute	10
Return of Title IV Funds Policy	10
DigiPen’s Financial Aid Code of Conduct	11
Drug Convictions and Financial Aid Eligibility	13
WAIVER CREDIT, AP EXAMINATIONS, CLEP, AND OTHER CREDIT	13
Course Waiver Examinations	13
Advanced Placement Examinations	13
Transfer Credit	13
STANDARDS OF PROGRESS	13
Grade Point Average	15
STUDENT AFFAIRS	15
Career Services	15
Alumni Relations	15

BACHELOR OF SCIENCE IN COMPUTER SCIENCE IN REAL-TIME INTERACTIVE SIMULATION	17
Recommended Course Sequence Chart for BS in Computer Science and Real-Time Interactive Simulation	17
BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND GAME DESIGN	19
Degree Requirements	19
BACHELOR OF SCIENCE IN COMPUTER ENGINEERING	20
Degree Requirements	20
Recommended Course Sequence Chart for BS in Computer Engineering	21
BACHELOR OF SCIENCE IN ENGINEERING AND SOUND DESIGN	23
Recommended Course Sequence Chart for BS in Engineering and Sound Design	23
BACHELOR OF ARTS IN MUSIC AND SOUND DESIGN	25
Degree Requirements	25
Recommended Course Sequence Chart for BA in Music and Sound Design	26
COURSE DESCRIPTIONS FOR THE ACADEMIC YEAR 2014–2015	29
Department of Animation and Production	29
Department of Computer Science	29
Department of Digital Arts	30
Department of Electrical and Computer Engineering	30
Department of Fine Arts	30
Department of Game Software Design and Production	31
Department of Music	31
Department of Physics	31
INTENSIVE ENGLISH PREPARATION (IEP)* COURSE REQUIREMENTS AND COURSE DESCRIPTIONS	31
Intensive English Preparation Course Requirements	31
Satisfactory Progress	31
Intensive English Preparation Curriculum Chart	32

Rules and Policies for the Academic Year 2014-2015

General Information

CAMPUS LIST

[Updated: September 2014]

[Addition of a list of DigiPen Institute of Technology campuses and locations.]

DigiPen Institute of Technology*

9931 Willows RD. NE
Redmond, WA 98052, U.S.

DigiPen Institute of Technology Singapore**

PIXEL Building, 10 Central Exchange Green, #01-01
Singapore, 138649

DigiPen Institute of Technology Europe-Bilbao***

Virgen del Puerto 34, Edificio A
48508 Zierbena, Bizkaia, Spain

*DigiPen's Redmond campus falls within the scope of ACCSC accreditation.

**DigiPen's Singapore campus falls within the scope of ACCSC accreditation.

**DigiPen's Europe-Bilbao campus does not fall within the scope of ACCSC accreditation.

HISTORY OF DIGIPEN INSTITUTE OF TECHNOLOGY

[Updated: February 2014]

[Addition to Institute history.]

On October 11, 2011, DigiPen Institute of Technology Singapore was granted accreditation by ACCSC as a branch campus of the main school located in Redmond, Washington, USA.

AWARDS

[Updated: July 2014]

[Revision of awards received.]

DigiPen students have consistently excelled in both national and international game development competitions. Since 2001, the annual Independent Games Festival (IGF) in San Francisco, California has granted 46 awards to 34 DigiPen student games. In 2007, 2008, and 2009, DigiPen projects also won the coveted Best Student Game award (for Toblo, Synaesthete, and Tag: The Power of Paint, respectively). In the IGF Main Competition, five DigiPen student games have been nominated for awards in various professional categories, and in 2004 Bontago won the "Innovation in Game Design" award while competing against professional developers. In 2011, the Independent Games Festival China, part of the annual Game Developers Conference China, selected three DigiPen games for its Student Competition which honors six of the top regional student games. DigiPen Singapore student game Pixi won the "Excellent Student Winner" award, while DigiPen Singapore student game Void won the "Best Student Game" award, as well as the "Excellence in Technology" award in IGF China's Main Competition.

ABOUT DIGIPEN'S FACILITIES

[Updated: June 2014]

[Addition of open production area seating approximately 131 students.]

DigiPen classrooms vary in size from lecture halls accommodating up to 198 students to small classrooms seating 16 students. DigiPen labs range in size from those accommodating 30 students to smaller labs seating 16 and 12. DigiPen also has two large, open production areas seating approximately 182 students and 131 students, respectively, facilitating the interdisciplinary work that goes into joint productions involving video game programmers and 3D artists.

VOTER REGISTRATION

[Updated: June 2014]

[Revised to direct readers online for more information.]

For detailed information about voter registration in Washington state and to download a voter registration form, visit wef.secstate.wa.gov/osos/en/voterinformation/Pages/RegistertoVote.aspx.

MILITARY ACTIVE DUTY POLICIES FOR STUDENTS AND MILITARY DEPENDENTS

[Updated: June 2014]

[Revised to clarify waived fee is applicable only to students returning from U.S. military active duty.]

READMISSION

In compliance with the Higher Education Authorization Act, matriculated students who are called to active duty shall be entitled to readmission provided that the student followed the appropriate steps as outlined in the *Withdrawal and Readmission Procedures for Students Called to Military Active Duty* section (see above). This is provided that the cumulative length of the absence and of all previous absences from the Institute, by reason of service in the uniformed services, does not exceed five years, and, except as otherwise provided in this section, the student submits a notification of intent to re-enroll in the Institute.

The reapplication fee is waived for students returning to DigiPen from United States military active duty.

Important Dates

[Updated: June 2014]

[Revised to remove tuition deposit deadlines. Addition of dates for Orientation, Spring Break, and Commencement. Winter Break end date revised.]

ACADEMIC CALENDAR

- **August 26-28, 2014**
Tuesday-Thursday
Orientation - First Year Students
- **September 1, 2014**
Monday
Labor Day
No Classes – Labs Closed
- **September 2, 2014**
Tuesday
Classes Begin - Fall Semester
- **November 11, 2014**
Tuesday
Veterans' Day
No Classes – Labs Open
- **November 27-28, 2014**
Thursday-Friday
Thanksgiving
No Classes – Labs Closed
- **December 8-12, 2014**
Monday-Friday
Fall Semester Final Exams
- **December 12, 2014**
Friday
Fall Semester Ends
- **December 13, 2014-January 4, 2015**
Saturday-Tuesday
Winter Break
No Classes – Labs Closed
- **January 2-4, 2015**
Friday-Sunday
Intersession
No Classes – Labs Closed
- **January 5, 2015**
Monday
Classes Begin - Spring Semester
- **January 19, 2015**
Monday
M.L. King Jr. Day
No Classes – Labs Open
- **February 3, 2015**
Tuesday
Founder's Day
No Classes – Labs Open
- **February 16, 2015**
Monday
Presidents' Day
No Classes – Labs Open
- **March 2-6 2014**
Monday-Friday
Spring Break
No Classes – Labs Open
- **April 20-24, 2015**
Monday-Friday
Spring Semester Final Exams
- **April 24, 2015**
Friday
Spring Semester Ends
- **April 25-May 3, 2015**
Saturday-Sunday
Intersession
No Classes – Labs Closed
- **April 27, 2015**
Monday
Commencement
- **May 4, 2015**
Monday
Classes Begin - Summer Session
- **May 25, 2015**
Monday
Memorial Day
No Classes – Labs Closed
- **July 3, 2015**
Friday
Independence Day Observed
No Classes – Labs Closed
- **July 20-24, 2015**
Monday-Friday
Summer Session Final Exams
- **July 24, 2015**
Friday
Summer Session Ends
- **T.B.A.**
Orientation – Incoming Students
- **September 7, 2015**
Monday
Labor Day
No Classes – Labs Closed
- **September 8, 2015**
Tuesday
Classes Begin – Fall Semester
- **November 11, 2015**
Wednesday
Veterans' Day
No Classes – Labs Open
- **November 26-27, 2015**
Thursday-Friday
Thanksgiving
No Classes – Labs Closed
- **December 14-18, 2015**
Monday-Friday
Fall Semester Final Exams
- **December 18, 2015**
Friday
Fall Semester Ends

The Institute is closed on all statutory holidays. Exam periods and breaks may be subject to change. The laboratory facilities may be closed for a period of two consecutive days per month for maintenance. It is usually the last two working days of the month unless otherwise posted. Enrollment occurs once a year, in September.

DEADLINES

- **July 9, 2014**
Wednesday
Last day to submit Request for Change of Major for Fall 2014 Semester. Last day to submit Application for Readmission for Fall 2014 Semester.
- **August 1, 2014**
Friday
Tuition balance due for Fall 2014 Semester.
- **September 8, 2014**
Monday
Last day to drop Fall 2014 Semester courses for 100% refund. Last day to add classes for Fall 2014 Semester.
- **September 15, 2014**
Monday
Final day to drop classes without academic penalty.
- **October 1, 2014**
Wednesday
Withdrawal deadline for 50% refund.
- **October 27, 2014**
Monday
Final day to receive a "W" on transcript for Fall 2014 Semester withdrawals. Withdrawals from the Institute after this date will receive a "F" (or 0 quality points) on transcript Final day to drop a class.
- **November 26, 2014**
Wednesday
Last day to submit Request for Change of Major for Spring 2015 Semester. Last day to submit Application for Readmission for Spring 2015 Semester.
- **December 1, 2014**
Monday
Tuition balance due for Spring 2015.
- **January 11, 2015**
Sunday
Last day to drop Spring 2015 Semester courses for 100% refund. Last day to add classes for Spring 2015 Semester.
- **January 18, 2015**
Sunday
Final day to drop classes without academic penalty.
- **February 3, 2015**
Tuesday
Withdrawal deadline for 50% refund.
- **March 1, 2015**
Sunday
Final day to receive a "W" on transcript for Spring 2015 Semester withdrawals. Withdrawals from the institute after this date will receive a "F"(or 0 quality points) on transcript Final day to drop a class.
- **April 1, 2015**
Wednesday
Tuition balance due for Summer 2015 session.
- **April 7, 2015**
Tuesday
Last date to submit Request for Change of Major for Summer 2015 session. Last day to submit Application for Readmission for Summer 2015 session.
- **May 10, 2015**
Sunday
Last day to drop Summer 2015 Session courses for 100% refund. Last day to add classes for Summer 2015 Session. Automatic Withdrawal date from classes missing prerequisites.
- **May 17, 2015**
Sunday
Final day to drop classes without academic penalty
- **June 2, 2015**
Tuesday
Last day to receive 50% Summer 2015 tuition refund
- **June 28, 2015**
Sunday
Final day to receive a "W" on transcript for Summer 2015 Session withdrawals. Withdrawals from the Institute after this date will receive a "F" (or 0 quality points) on transcript Final day to drop a class.
- **July 7, 2015**
Tuesday
Last day to submit Request for Change of Major for Fall 2015 Semester. Last day to submit Application for Readmission for Fall 2015 Semester.
- **August 1, 2015**
Saturday
Tuition balance due for Fall 2015 Semester.
- **September 14, 2015**
Monday
Last day to drop Fall 2015 Semester courses for 100% refund. Last day to add classes for Fall 2015 Semester.
- **September 21, 2015**
Monday
Final day to drop class without academic penalty.
- **October 7, 2015**
Wednesday
Withdrawal deadline for 50% refund.
- **November 2, 2015**
Monday
Final day to receive a "W" on transcript for Fall 2015 Semester withdrawals. Withdrawals from the Institute after this date will receive an "F" (or 0 quality points) on transcript.

Tuition and Fees

[Updated: July 2014]

[Revised to direct students to Student Affairs for parking application details.]

PARKING

On-campus parking is available for \$240 per academic year. Please see the Office of Student Affairs for details regarding parking applications.

Financial Assistance

[Updated: July 2014]

[Financial Assistance chapter reprinted to reflect extensive changes, including revisions to grant and scholarship information and the Financial Aid Code of Conduct.]

THE ROLE OF THE OFFICE OF FINANCIAL AID

The primary objective of the Office of Financial Aid is to assist students and their families in meeting basic educational costs. The Office of Financial Aid's goal is to provide financial assistance to eligible students by utilizing all federal, state, community and on-campus resources to those who qualify. We strive to provide comprehensive information about all financial aid programs and to deliver student financial assistance in a timely and efficient manner.

DigiPen administers all financial aid programs in accordance with established federal, state, and institutional regulations and policies. Please contact the Office of Financial Aid or visit digipen.edu for the most up-to-date eligibility criteria and award amounts for the aid programs outlined below.

WHO CAN APPLY

To be eligible to apply for financial aid at DigiPen, students must meet the following requirements:

- Be a citizen of the United States or an eligible non-citizen;
- Have a valid Social Security number;
- Be enrolled in a degree program with six or more credits per semester;
- Not owe a repayment on a grant or be in default on a student loan;
- Be registered with Selective Service, if required and if male;
- Be making Satisfactory Academic Progress (if a returning DigiPen student). For more information, please see the *Satisfactory Academic Progress* section.

Other types of financial aid, such as the Washington State Need Grant, Veterans Benefits, and Private Loans, have additional eligibility criteria.

HOW TO APPLY

To apply for financial aid, go to fafsa.gov and complete the Free Application for Federal Student Aid (FAFSA). The FAFSA will be

available after January 2 of each calendar year. Please be sure to include DigiPen Institute of Technology federal school code: 037243. It is important to file the FAFSA as early as possible so that the student's financial aid award can be finalized and the academic year can be planned. Please know that some funds are limited and are based on a first-come, first-served basis. Applying early is advisable.

TYPES OF FINANCIAL AID

Financial aid available for those who qualify.

GRANTS

Grants are a form of financial aid that do not need to be repaid and are ordinarily awarded on the basis of financial need.

FEDERAL PELL GRANT PROGRAM

The Federal Pell Grant program provides grants for lower-income students. This need-based grant is awarded to undergraduate students who qualify and is based upon completion of the FAFSA. Grants can be used for tuition, fees, and living expenses. The grant amount depends on the family's financial need and on the student's enrollment status. For the current year's grant range, visit digipen.edu/financial-aid/loans-and-grants/undergraduate-grants/. Students who have already earned a bachelor's degree, master's degree, or other professional degree do not qualify for Pell Grants.

FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT (FSEOG)

The FSEOG program provides grants for students who demonstrate exceptional financial need. This need-based grant is awarded to undergraduate students who qualify and is based upon completion of the FAFSA. Funds are limited for the program, and grants are made to Pell Grant recipients first.

IRAQ AND AFGHANISTAN SERVICE GRANT (IASG)

The Iraq and Afghanistan Service Grant is a non-need-based grant available to any undergraduate student whose parent or guardian died as a result of military service in Iraq or Afghanistan after September 11, 2001. Recipients must either have been less than 24 years of age or enrolled in an institution of higher education at the time of their parent or guardian's death. If a student is not eligible for the Pell Grant, the IASG entitles the student to receive an amount equal to the maximum Pell Grant; if the student is eligible for a partial Pell grant, the IASG may qualify the student for an increase in funds up to the maximum Pell Grant.

WASHINGTON STATE FUNDING

Students who are residents of Washington state may qualify for the following based on their financial need.

WASHINGTON STATE NEED GRANT PROGRAM (WSNG)

The Washington State Need Grant helps the state's lowest-income undergraduate students pursue degrees, hone their skills, or retrain for new careers. Like the Pell Grant, this grant is

dependent on the student's financial need. All eligible students who submit the FAFSA will be considered for this grant. Funds are limited in this program and eligible students are awarded on a first-come, first-served basis. For a full list of eligibility requirements, visit digipen.edu/financial-aid.

COLLEGE BOUND SCHOLARSHIP

Students may use a Washington State College Bound Scholarship that they applied for in 7th and 8th grade at DigiPen. The scholarship amount can cover a percentage of tuition predetermined by the state. Please contact the Office of Financial Aid for specific amounts each year or refer to digipen.edu/financial-aid.

OPPORTUNITY GRANT (WASHINGTON STATE)

The Opportunity Grant helps low-income adults reach the educational tipping point and beyond in high-wage, high-demand careers. This grant pays for up to 45 credits to be used within three years, and covers tuition, fees, and up to \$1,000 per year for books and supplies. To qualify for this grant, students must demonstrate financial need based on their FAFSA and submit a separate Opportunity Grant application. Funds are limited in this program, and eligible students are awarded on a first-come, first-served basis. For eligibility requirements and a link to the application, visit digipen.edu/financial-aid.

STATE GRANT ASSISTANCE FROM OTHER STATES

There may be state grant availability to students who are residents of other states. Please check your state's local authorizing agency.

SCHOLARSHIPS

Available for those who qualify.

Scholarships are a form of financial aid that do not need to be repaid. Scholarships can be awarded based on merit or financial need or a combination of both.

DIGIPEN SCHOLARSHIPS

DigiPen offers need-based and merit-based scholarships. We are committed to helping students who exhibit financial need, and we recognize the importance of rewarding excellence. Some of DigiPen's scholarships require a separate application, so please visit our website for specific instructions at digipen.edu/financial-aid/scholarship-information/.

List of the scholarships DigiPen offers:

Presidential Merit Scholarship

For new undergraduate students who exhibit exceptionally strong academic performance and/or creative talent.

Academic Achievement Scholarship

\$10,000 scholarship for new undergraduate students who are likely to make a positive impact in both the DigiPen community and in their chosen field.

Gap Scholarship

\$10,000 scholarship for new undergraduate students who demonstrate considerable financial need.

Art Scholarship

\$10,000 for new undergraduate students who demonstrate considerable artistic talent.

FIRST Scholarship

\$5,000 scholarship for new undergraduate students who participated in a "For Inspiration and Recognition of Science and Technology" (FIRST) team during their junior or senior year in high school.

Continued Student Academic Success Scholarship

\$5,000 for continuing undergraduate students who demonstrate academic success during their time at DigiPen.

Financial Stimulus Scholarship

\$5,000 for continuing undergraduate students who demonstrate financial need.

Campus Leadership Scholarship

For continuing undergraduate students who have proven to be valued members of the DigiPen community by actively participating in campus organizations and activities.

President's Graduate Fellowship

Each year, DigiPen's Graduate Selection Committee awards the President's Graduate Fellowship to one new incoming MS in Computer Science student and one new incoming MFA in Digital Arts student. All candidates who have applied for admission and have been accepted into one of these programs by July 1 are automatically considered for these fellowships; no additional application is required.

Both fellowships are awarded to students who demonstrate a history of high academic performance and/or professional success. The President's Graduate Fellowship for MFA students also takes into account candidates' artistic skill as demonstrated in their portfolio.

The fellowship for MS in Computer Science students covers nine credits of the first year of a student's program and six credits of the student's second year of the program.

The fellowship for MFA in Digital Arts students covers 15 credits of the first year and 10 credits of the second year.

VETERANS BENEFITS

Selected programs of study at DigiPen Institute of Technology are approved by the Washington Student Achievement Council's State Approving Agency (WSAC/SAA) for enrollment of persons eligible to receive Veterans Affairs (VA) educational benefits.

The following VA educational assistance benefits are available at DigiPen:

- Chapter 30 (Title 38, U.S. Code) - Montgomery GI Bill for Active Duty and Veterans
- Chapter 32 (Title 38, U.S. Code) - Veterans Educational Assistance Program
- Chapter 33 (Title 38, U.S. Code) - Post 9/11 GI Bill
DigiPen participates in the Yellow Ribbon program for those students who may be eligible.
- Chapter 35 (Title 38, U.S. Code) - Dependents of Disabled/Deceased Veterans
- Chapter 1606 (Title 10, U.S. Code) - Montgomery GI Bill for National Guard & Selected Reserves

Eligibility for the various VA educational benefits programs is determined, in part, by the student's date of enlistment, and the student must be a degree-seeking student with a declared major at DigiPen. In all cases, the Department of Veterans Affairs makes the final determination of eligibility. Application forms for VA benefits are available at va.gov.

Prospective students who believe they might be eligible for VA educational benefits should contact DigiPen's Office of Financial Aid for more information and to begin the application process. The Office of Financial Aid may assist veterans in seeking other sources of financial aid in addition to their VA educational benefits.

LOANS

Loans are a form of financial aid that is borrowed and that must be repaid. An education loan is money borrowed to pay educational expenses.

FEDERAL DIRECT LOAN PROGRAM

This program is also referred to as the William D. Ford Federal Direct Loan Program. Eligible students and parents borrow directly from the U.S. Department of Education. Direct Loans consist of Subsidized and Unsubsidized Stafford Loans, Federal Direct PLUS Loans and Federal Direct Consolidation Loans. DigiPen Institute of Technology awards these loans, but students and parents repay them directly to the federal government.

Direct Subsidized Stafford Loans

This is a low-interest loan awarded to undergraduate students based on financial need. This loan is subsidized, meaning the interest is paid by the federal government during enrollment and other eligible periods. Interest on this loan begins to accrue once a student graduates, leaves school, or enrolls as less than a half-time student.

Federal Direct Unsubsidized Stafford Loans

This is a low-interest loan awarded to undergraduate and graduate students regardless of financial need.

This loan is unsubsidized during enrollment. Students can opt to either pay the interest as it accrues, or defer payment, in which case the interest is capitalized.

Federal Direct Parent Loan for Undergraduate Students (Direct PLUS Loans)

This is a low-interest loan parents can obtain for their dependent undergraduate students. These loans are unsubsidized, non-need-based loans awarded to parents of dependent undergraduate students. PLUS loans can cover a large portion of educational costs and have a fixed interest rate. The borrower must not have adverse credit history.

Federal Direct Graduate PLUS Loans

This is a low-interest loan awarded to graduate students. This loan can cover a large portion of educational costs and has a fixed-interest rate. The borrower must not have adverse credit history.

PRIVATE LOANS

Private Education Loans, also known as Alternative Education Loans, are student loans offered by private banks or other financial institutions. These loans are credit based and may have variable interest rates that are less favorable than those of Direct Loans. Therefore, they should be used as a last resort when seeking funding for education. DigiPen Institute of Technology does not participate in any preferred lender arrangements, nor does it endorse any lenders.

ENROLLMENT REQUIREMENTS FOR FINANCIAL AID ELIGIBILITY

Full-time enrollment for traditional undergraduate students consists of 12 or more credits per semester. For graduate students, it is nine or more credits per semester or as required for the program. An undergraduate student must be enrolled at least half-time in order to be eligible for federal financial aid. A graduate student must be enrolled at least half-time in order to be eligible for federal financial aid. Changes in a student's enrollment may require an adjustment and/or repayment of financial aid funds that have been awarded.

STUDY ABROAD FOR FEDERAL STUDENT AID ELIGIBILITY

DigiPen does not offer study abroad programs that are eligible for Federal Student Aid at this time.

SATISFACTORY ACADEMIC PROGRESS FOR FINANCIAL AID

In order for DigiPen undergraduate and graduate students to receive federal financial aid, they must be making satisfactory academic progress (SAP) in accordance with federal rules. Federal SAP rules are required to be the same, or stricter than, the institution's academic progress rules. Given the rigor of DigiPen's academic programs, the Institute uses its academic

rules to measure federal SAP, taking into consideration federal requirements regarding GPA, pace of progression, and maximum time to completion of the degree. Please refer to the Standards of Progress section for specific requirements.

MONITORING AND APPEALS

At the end of each semester, the academic records of students eligible for federal funding are reviewed in order to determine whether or not the student is meeting all SAP requirements. This includes all courses attempted, whether financial aid was received or not. Should students be deemed to not be meeting SAP they will be placed on Academic Warning and they will have the opportunity to provide information to an appeals committee about mitigating circumstances, such as, but not limited to, death or major illness within the family, or personal illness or injury. If a student is placed on Academic Warning, the Office of Financial Aid will concurrently place the student on federal financial aid warning.

FEDERAL FINANCIAL AID WARNING

Students who fail to meet the SAP standards and who are placed on Academic Warning for the next semester will also be placed on federal financial aid warning. Students placed on federal financial aid warning are eligible for financial aid during the warning term. A student on federal financial aid warning who fails to make satisfactory progress during the warning term may not be placed on federal financial aid warning for the consecutive term. Students may be placed on federal financial aid probation for the consecutive term after a successful appeal.

FEDERAL FINANCIAL AID PROBATION

Students who were on federal financial aid warning in the prior term and who are following an academic plan are given the status of federal financial aid probation for their next term of enrollment. (Federal rules mandate that students may not be placed on federal financial aid probation unless their college or university has a process for reviewing and granting appeals.) Students on federal financial aid probation may continue to receive federal financial aid for the federal financial aid probation term.

REESTABLISHING FINANCIAL AID ELIGIBILITY

A student who loses financial aid eligibility or whose appeal for continuation or reinstatement of financial aid has been denied can regain eligibility by complying with the SAP policy. If the student has resolved the SAP deficiencies that resulted in the termination of financial aid eligibility, the student should contact the Office of Financial Aid and request a SAP evaluation.

WASHINGTON STATE NEED GRANT SATISFACTORY ACADEMIC PROGRESS POLICY

The Washington State Need Grant Satisfactory Academic Progress Policy operates differently than the Financial Aid Satisfactory Academic Progress Policy. For detailed information, please contact the Office of Financial Aid or visit digipen.edu.

WITHDRAWAL FROM THE INSTITUTE

It is absolutely necessary for a student withdrawing from DigiPen to make an appointment with the Office of Financial Aid for an exit interview prior to leaving the Institute. This applies to students who are withdrawing and/or transferring to another institution. Failure to meet for an exit interview may increase the risk of defaulting on student loans. Students who withdraw may be subject to the return of Title IV Funds.

RETURN OF TITLE IV FUNDS POLICY

DigiPen's Institutional Refund Policy operates independently from the Return of Title IV Funds Policy requirements for all financial aid recipients.

I. TREATMENT OF TITLE IV FUNDS

When a recipient of a Title IV grant and/or loan withdraws from the Institute during any payment period in which the recipient began attendance, the Institute must determine the amount of Title IV grant and/or loan that the recipient earned as of the student's withdrawal date. Unearned funds must be returned to the Title IV programs.

II. THE RETURN OF TITLE IV FUNDS

This policy applies to all financial aid recipients who withdraw, drop out, leave without notice, or otherwise fail to complete 60% of the payment period for which they received Title IV funds (grants and/or loans).

1. The term "Title IV Funds" refers to the Federal Financial Aid programs authorized under the Higher Education Act of 1965 (as amended) and includes the following programs administered by the Institute: Direct Subsidized and Unsubsidized Stafford Loans, Direct PLUS loans for Parents and Graduates, Pell Grants and Federal Supplementary Education Opportunity Grant (FSEOG), Federal Work Study, and the Iraq and Afghanistan Service Grant (IASG).
2. A student's withdrawal date is the last date of attendance as determined by the Institute's attendance records or the date of determination in accordance with the Institute's withdrawal policy.
3. The calculation required determines a student's earned and unearned Title IV aid based on the percentage of the payment period completed by the student. The Institute calculates the amount of Title IV assistance earned by the student by dividing the number of days the student attended in the payment period by the number of days in the payment period. Calendar days (including weekends) are used, but breaks of at least 5 days are excluded from both the numerator and denominator.
4. Until a student has passed the 60% point of a payment period, only a portion of the student's aid has been earned. A student who remains enrolled beyond the 60% point is considered to have earned all awarded aid for the payment period.

5. In accordance with Federal Regulations refunds are allocated in the following order:

- Federal Direct Unsubsidized Federal Stafford loans
- Federal Direct Subsidized Federal Stafford loans
- Federal Direct PLUS loans
- Federal Direct Grad PLUS loans
- Federal Work Study
- Federal Pell Grant
- Federal Supplemental Educational Opportunity Grant (FSEOG)
- Iraq and Afghanistan Service Grant (IASG)

6. Institutional and student responsibility in regard to the return of Title IV Funds:

The responsibility to repay unearned Title IV aid is shared by the Institute and the student. For example, the calculation may require the Institute to return a portion of the federal funds to the Title IV programs.

Once the Institute has calculated the amount to return, the Institute will return the funds within 45 calendar days. The Institute will return the loan funds and make adjustments to as required by Federal Regulations. The Bursar will refund the funds to the Direct Loan Program or a subsequent holder, if the loan has been transferred and the school knows the new holder's identity.

In addition, the student may also be obligated to return funds based on the calculation. A student returns funds to the Direct Stafford loan programs based on the terms and conditions of the promissory note of the loan. A student who receives a Federal Grant may be required to repay 50% of the funds received.

The Institute's Responsibility

- The Institute makes this policy readily available by request to any enrolled and/or prospective students through the Office of Financial Aid. In addition, the Office of Financial Aid makes readily available the written refund requirements.
- Identifying students who are affected by this policy and completing the Return of Title IV funds calculation for those students.
- Returning any Title IV funds that are due to the Title IV programs.

Student's Responsibility

The student's responsibilities in regard to the return of Title IV Funds include:

- Returning to the Title IV programs any funds that were disbursed directly to the student and which the student was determined to be ineligible for via the Return of Title IV Funds calculation.
- Students who owe funds to a grant program are required to make payment of those funds within 45 days of being notified that they owe this overpayment. During the 45-day period students will stay eligible for Title IV funds. If the student does not take any action within the 45 days of being notified, the Institute will notify the U.S. Department of Education of the student's overpayment situation. The student will no longer be eligible for Title IV funds until a satisfactory repayment agreement is entered into with the U.S. Department of Education.

7. Post-Withdrawal Disbursement: If a student receives less federal student aid than the amount earned, the Institute must offer a post-withdrawal disbursement. The Institute is required to make a post-withdrawal disbursement within 180 days of the date the institution determines the student withdrew. Upon completion of the Return of Title IV Funds calculation, if it is determined a post withdrawal is due to the student and/or parent the Institute will notify the student and/or parent in writing.

8. The Institute will make readily available a summary of the Return of Title IV Funds requirements to any enrolled and/or prospective student by request to the Office of Financial Aid.

III. TO OFFICIALLY WITHDRAW FROM DIGIPEN INSTITUTE OF TECHNOLOGY

Please refer to the *Withdrawing from the Institute* section regarding the withdrawal policy.

IV. CANCELLATION AND REFUND POLICIES

Please refer to the *Cancellation and Refund Policies* section.

If students have any questions or concerns regarding the *Return of Title IV Funds Policy, Refund Policy, Overpayment*, or would like examples of the Return of Title IV Funds calculations, please contact the Office of Financial Aid.

DIGIPEN'S FINANCIAL AID CODE OF CONDUCT

In response to the enactment of the Higher Education Opportunity Act in August of 2008, DigiPen's Office of Financial Aid has adopted the following NASFAA (National Association of Student Financial Aid Administrators) Code of Conduct to help ensure ethical behavior and the highest level of professional practices. All DigiPen staff members responsible for the administration of federal and private educational loans are subject to these guidelines.

NASFAA STATEMENT OF ETHICAL PRINCIPLES

The primary goal of the financial aid professional is to help students achieve their educational goals through financial support and resources. NASFAA members are required to exemplify the highest level of ethical behavior and demonstrate the highest level of professionalism. The following guidelines were last updated by NASFAA's Board of Directors in March 2014.

We, financial aid professionals, declare our commitment to the following Statement of Ethical Principles.

Financial aid administrators shall:

Advocate for students

Remain aware of issues affecting students and continually advocate for their interests at the institutional, state and federal levels.

Support federal, state and institutional efforts to encourage students, as early as the elementary grades, to aspire to and plan for education beyond high school.

Manifest the highest level of integrity

Commit to the highest level of ethical behavior and refrain from conflict of interest or the perception thereof.

Deal with others honestly and fairly, abiding by our commitments and always acting in a manner that merits the trust and confidence others have placed in us.

Protect the privacy of individual student financial records.

Promote the free expression of ideas and opinions, and foster respect for diverse viewpoints within the profession.

Support student access and success

Commit to removing financial barriers for those who want to pursue postsecondary learning and support each student admitted to our institution.

Without charge, assist students in applying for financial aid funds.

Provide services and apply principles that do not discriminate on the basis of race, gender, ethnicity, sexual orientation, religion, disability, age, or economic status.

Understand the need for financial education and commit to educate students and families on how to responsibly manage expenses and debt.

Comply with federal and state laws

Adhere to all applicable laws and regulations governing federal, state, and institutional financial aid programs.

Actively participate in ongoing professional development and continuing education programs to ensure ample understanding of statutes, regulations, and best practices governing the financial aid programs.

Encourage colleagues to participate in the financial aid professional associations available to them at the state, regional, or national level and offer assistance to other aid professionals as needed.

Strive for transparency and clarity

Provide our students and parents with the information they need to make good decisions about attending and paying for college.

Educate students and families through quality information that is consumer-tested when possible. This includes (but is not limited to) transparency and full disclosure on award notices.

Ensure equity by applying all need-analysis formulas consistently across the institution's full population of student financial aid applicants.

Inform institutions, students, and parents of any changes in financial aid programs that could affect their student aid eligibility.

Protect the privacy of financial aid applicants

Ensure that student and parent private information provided to the financial aid office by financial aid applicants is protected in accordance with all state and federal statutes and regulations, including FERPA and the Higher Education Act, Section 483(a)(3) (E) (20 U.S.C. 1090).

Protect the information on the FAFSA from inappropriate use by ensuring that this information is only used for the application, award, and administration of aid awarded under Title IV of the Higher Education Act, state aid, or aid awarded by eligible institutions.

NASFAA CODE OF CONDUCT FOR INSTITUTIONAL FINANCIAL AID PROFESSIONALS

The following Code of Conduct was last updated by NASFAA's Board of Directors in March 2014. Institutional members of NASFAA will ensure that:

1. No action will be taken by financial aid staff that is for their personal benefit or could be perceived to be a conflict of interest.
 - » Employees within the financial aid office will not award aid to themselves or their immediate family members. Staff will reserve this task to an institutionally designated person, to avoid the appearance of a conflict of interest.
 - » If a preferred lender list is provided, it will be compiled without prejudice and for the sole benefit of the students attending the institution. The information included about lenders and loan terms will be transparent, complete, and accurate. The complete process through which preferred lenders are selected will be fully and publicly disclosed. Borrowers will not be auto-assigned to any particular lender.
 - » A borrower's choice of a lender will not be denied, impeded, or unnecessarily delayed by the institution, even if that lender is not included on the institution's preferred lender list.
 - » No amount of cash, gift, or benefit in excess of a de minimis amount shall be accepted by a financial aid staff member from any financial aid applicant (or his/her family), or from any entity doing business with or seeking to do business with the institution (including service on advisory committees or boards beyond reimbursement for reasonable expenses directly associated with such service).
2. Information provided by the financial aid office is accurate, unbiased, and does not reflect preference arising from actual or potential personal gain.
3. Institutional award notifications and/or other institutionally provided materials shall include the following:
 - » A breakdown of individual components of the institution's Cost of Attendance, designating all potential billable charges.
 - » Clear identification of each award, indicating type of aid, i.e. gift aid (grant, scholarship), work, or loan.

- » Standard terminology and definitions, using NASFAA's [glossary of award letter terms](#).
- » Renewal requirements for each award.

4. All required consumer information is displayed in a prominent location on the institutional web site(s) and in any printed materials, easily identified and found, and labeled as "Consumer Information."
5. Financial aid professionals will disclose to their institution any involvement, interest in, or potential conflict of interest with any entity with which the institution has a business relationship.

DRUG CONVICTIONS AND FINANCIAL AID ELIGIBILITY

A federal or state drug conviction can disqualify a student for Federal Student Aid funds. Convictions count against a student for an offense that occurred during a period of enrollment for which the student was receiving Federal Student Aid. Drug or other convictions can also disqualify students for DigiPen institutional scholarships and grants.

Please refer to the Policies and Consumer Information section at: digipen.edu/financial-aid.

Waiver Credit, AP Examinations, CLEP, and Other Credit

[Updated: June 2014]

[Removed a rule which limited the number of transfer credits students were allowed per semester. Removed the maximum and minimum credit transfers allowed from AP examinations. Transfer Credit Policy revised to reflect that students must take 50% of their program at DigiPen.]

Students may apply for course waivers if they can demonstrate that their knowledge and skills - whether they were gained by formal education, exam, work experience, or life experience - are equivalent to those gained by courses offered at DigiPen Institute of Technology. Credit may be granted through other means: Advanced Placement (AP) Exam scores, International Baccalaureate (IB) courses, College-Level Examination Program (CLEP) subject exam scores, or transfer credits from other post-secondary institutions. Course transfers and waivers are processed at \$25.00 per credit.

COURSE WAIVER EXAMINATIONS

Students 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 for a specific course but does not result in credit earned. Waiver credits will not reduce the total number of semester hours required for a degree; however, they will increase the available number of elective hours for a degree. Waiver examinations must be taken prior to the final semester at DigiPen, and they may not be repeated.

ADVANCED PLACEMENT EXAMINATIONS

Course waivers or credit may be granted for satisfactory achievement on Advanced Placement Exams of the College Entrance Examination Board taken within the last 10 years. No grades will be assigned to the courses, nor will they be figured into a student's grade point average. Courses waived or transferred are entered on students' transcripts, but no grades or quality points are awarded. Official results must be sent to the Registrar before course waivers or transfers are granted.

TRANSFER CREDIT

Credit earned by examination at other colleges or universities in the last 10 years may be transferred, provided such credit meets the guidelines used by DigiPen Institute of Technology. For undergraduate programs, a student must take a minimum of 50% of the entire program at DigiPen (unless the student attended an institution with which DigiPen has established an articulation agreement). Graduate programs allow a maximum of 15 transfer credits from other colleges and other DigiPen programs. Due to the rigorous nature and subject specificity of the programs at DigiPen, students transferring in to DigiPen should usually expect no more than 25% of credits will transfer.

Standards of Progress

[Updated: June 2014]

[The Milestone Chart has been updated with the correct credit milestones following revisions to the BA in Music and Sound Design degree program. The Grade Point Average chart is reprinted to correct its misprint in the 2014-2015 Course Catalog.]

UNDERGRADUATE STUDENTS

A student must be in good academic standing based on the cumulative grade point average of all courses taken at DigiPen Institute of Technology to meet the qualitative standard of SAP. Students may reference the Course Catalog of their matriculation cohort for milestone credits and cumulative GPA information for their cohort. Good academic standing for students in cohorts that began in 2014 or later is charted as follows:

STUDENTS WHO BEGAN IN THE 2014 COHORT OR LATER

MILESTONE – UNDERGRADUATE	MINIMUM GPA REQUIREMENT
<ul style="list-style-type: none"> • Up to 50% of program 77 attempted credits* for BS in Computer Science in Real-Time Interactive Simulation 77 attempted credits for BS in Computer Science and Game Design 77 attempted credits for BS in Computer Engineering 71 attempted credits for BS in Engineering and Sound Design 72 attempted credits for BFA in Digital Art and Animation 76 attempted credits for BA in Game Design 70 attempted credits for BA in Music and Sound Design 	1.8 or better cumulative GPA
<ul style="list-style-type: none"> • Over 50% of program 78-153 attempted credits for BS in Computer Science in Real-Time Interactive Simulation 78-153 attempted credits for BS in Computer Science and Game Design 78-153 attempted credits for BS in Computer Engineering 72-142 attempted credits for BS in Engineering and Sound Design 73-144 attempted credits for BFA in Digital Art and Animation 77-152 attempted credits for BA in Game Design 71-139 attempted credits for BA in Music and Sound Design 	2.0 or better cumulative GPA
<ul style="list-style-type: none"> • 100% of program 154 earned credits or greater for BS in Computer Science in Real-Time Interactive Simulation 154 earned credits or greater for BS in Computer Science and Game Design 154 earned credits or greater for BS in Computer Engineering 143 earned credits or greater for BS in Engineering and Sound Design 145 earned credits or greater for BFA in Digital Art and Animation 153 earned credits or greater for BA in Game Design 140 earned credits or greater for BA in Music and Sound Design 	2.0 or better cumulative GPA

**An attempted credit is defined as any credit that is awarded a final letter grade (“A” to “F”). Credits earning a “W” or “I” are not considered attempted credits for the purpose of calculating GPA. Credits earning a “W” or “I” are considered attempted credits for the purpose of calculating pace.*

GRADE POINT AVERAGE

The academic standing of each student is determined on the basis of the grade point average (GPA) earned each semester. The GPA is determined by using the quality points assigned to each course grade a student earns. 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" [or 4.0 quality points] through "F" [or 0 quality points]) to obtain the GPA.

The cumulative GPA consists of all courses completed at DigiPen. If multiple attempts were made for the same course, only the grades earned in the two most recently completed attempts are calculated in the cumulative GPA. Course grades of "AU," "I," "W," "S," "U," and "P" are non-punitive grades, so they are not calculated in the overall GPA since they carry no quality points.

The following example shows how grade point average is calculated:

COURSE	CREDITS	GRADE	POINTS
CS 100	3	A	12.0 (3 x 4.0)
CS 100L	1	A	4.0 (1 x 4.0)
MAT 140	4	A-	14.8 (4 x 3.7)
CS 105	3	B	9.0 (3 x 3.0)
ENG 110	3	D	3.0 (3 x 1.0)
CS 120	3	B+	9.9 (3 x 3.3)
CS 120L	1	A-	3.7 (1 x 3.7)
Totals	18		56.4

Total grade points divided by total credits equals the cumulative grade point average. Therefore, the grade point average for the above example is 56.4 divided by 18 for a 3.13 GPA.

Student Affairs

[Updated: June 2014]

[Career Services and Alumni Relations sections revised to best reflect the extent and nature of employment assistance available to students and/or graduates.]

CAREER SERVICES

DigiPen's Career Services staff provides a variety of resources for enrolled degree-seeking students to jumpstart their professional development before they graduate and transition into the industry. These resources include on-campus events for students to meet and interact with game industry professionals, online tools and on-campus facilities to connect students with prospective employers, communication workshops, and both group and one-on-one appointments to review application materials (e.g., resumes, cover letters, websites) and discuss interviewing and other job search skills.

The Career Services staff coordinates a variety of on-campus events for students; recruiters meet with juniors, seniors, and master's students to offer insight into their companies, review resumes and student work, and interview potential hires at weekly Company Day presentations. Career Services hosts an annual Career Fair every spring semester for all graduating students to showcase their projects and portfolios to employers and recruiters from across the country. DigiPen's Career Services staff also works closely with faculty to host guest lectures by industry professionals on campus.

DigiPen's Career Services staff establishes relationships with potential employers and maintains an online Job Portal for students and alumni as well as online professional/social networking groups for alumni. The Career Services staff also maintains an on-campus bulletin board where employers can post open job and internship opportunities for students and visiting alumni. DigiPen attends industry events, such as the Game Developers Conference, to promote the Institute's programs and students.

For further information, please email the Career Services staff at careerservices@digipen.edu. Please note that employment upon graduation is not guaranteed, nor is DigiPen obligated to secure employment on behalf of students.

ALUMNI RELATIONS

The Institute maintains a database of all graduates, and DigiPen alumni are encouraged to report back regarding changes to their professional status. DigiPen hosts annual alumni events at the Game Developers Conference and PAX each year to provide opportunities for alumni to connect with one another. DigiPen also provides career resources post-graduation and encourages alumni to remain connected with the DigiPen community.

Degree Programs for the Academic Year 2014-2015

Bachelor of Science in Computer Science in Real-Time Interactive Simulation

[Updated: June 2014]

[PHY 350 removed from the BS in Computer Science and
Real-Time Interactive Simulation Recommended Course
Sequence chart.]

RECOMMENDED COURSE SEQUENCE CHART FOR BS IN COMPUTER SCIENCE AND REAL-TIME INTERACTIVE SIMULATION

SEMESTER	COURSE	COURSE TITLE	CORE*	CREDITS
Semester 1	MAT 140	Linear Algebra and Geometry	X	4
	CS 100	Computer Environment	X	3
	CS 100L	Computer Environment Lab	X	1
	CS 120	High-level Programming I – The C Programming Language	X	3
	CS 120L	High-level Programming I Lab	X	1
	GAM 100	Project Introduction	X	3
	ENG 110	Composition		3
	COL 101	College Life and Academic Skills		1
	Semester Total			19
Semester 2	MAT 150 or MAT 180	Calculus and Analytic Geometry I or Vector Calculus I	X	4
	CS 170	High-level Programming II – The C++ Programming Language	X	3
	CS 170L	High-level Programming II Lab	X	1
	CS 230	Game Implementation Techniques	X	3
	GAM 150	Project I	X	3
	COM 150	Interpersonal and Work Communication		3
	Semester Total			17
Semester 3	MAT 200 or MAT 230	Calculus and Analytic Geometry II or Vector Calculus II	X	4
	CS 180	Operating System I, Man-Machine Interface	X	3
	CS 200	Computer Graphics I	X	3
	CS 225	Advanced C/C++	X	3
	GAM 200	Project II	X	4
	PHY 200	Motion Dynamics	X	3
	Semester Total			20
Semester 4	PHY 250	Waves, Optics, and Aerodynamics		3
	CS 250	Computer Graphics II	X	3
	CS 365	Software Engineering	X	3
	CS 280	Data Structures	X	3
	GAM 250	Project II	X	4
	MAT 250	Linear Algebra	X	3
	Semester Total			19

SEMESTER	COURSE	COURSE TITLE	CORE*	CREDITS
Semester 5	CS 300	Advanced Computer Graphics I	X	3
	CS 260	Computer Networks I, Interprocess Communication	X	3
	CS 330	Algorithm Analysis	X	3
	MAT 258	Discrete Mathematics	X	3
	CG 130	3D Computer Animation Production I		3
	GAM 300	Project III	X	5
	Semester Total			20
Semester 6	MAT 300	Curves and Surfaces	X	3
	CS 350	Advanced Computer Graphics II	X	3
	CS 315	Low-level Programming	X	3
	Computer Science or Physics Elective	Any 200-level or higher CS course not required	X	3
	GAM 350	Project III	X	5
	Open Elective	An elective of the student's choice from any department at DigiPen		3
	Semester Total			20
Semester 7	ART and MUS Elective	Select one: ANI 125, ART 400, ART 410, FLM 115, FLM 151, FLM 152, or MUS 115		2
	English Elective	One English elective chosen from any ENG course, ENG 116 and above		2-4
	Computer Science Elective	Any 200-level or higher CS course not required	X	3
	Math Elective	MAT 256 or any MAT course greater than 300	X	3
	GAM 400	Project IV	X	5
	Open Elective	An elective of the student's choice from any department at DigiPen		3
	ART 210	Art Appreciation		2
	Semester Total			20-23
Semester 8	English Elective	One English elective chosen from any ENG course, ENG 116 and above		2-4
	Computer Science Elective	Any 200-level or higher CS course not required	X	3
	Computer Science Elective	Any 200-level or higher CS course not required	X	3
	GAM 450	Project IV	X	5
	Open Elective	An elective of the student's choice from any department at DigiPen		3
	HSS Elective	One humanities & social science elective from any three-credit HIS, PSY, or SOS courses		3
	Semester Total			19-21
Degree Total				154 minimum

Bachelor of Science in Computer Science and Game Design

[Updated: June 2014]

[The Computer Science Requirement section is included in the BS in Computer Science and Game Design Degree Requirements list to correct a misprint in the 2014-2015 Course Catalog.]

DEGREE REQUIREMENTS

NUMBER OF CREDITS AND GPA

The Bachelor of Science in Computer Science and Game Design requires completion of at least 154 semester credits with a cumulative GPA of 2.0 or better. The program usually spans eight semesters of 15 weeks each, or four academic years.

GRADE REQUIREMENTS AND CORE COURSES

Students must receive a grade of "C-" (or 1.7 quality points) or higher in all core courses for the Bachelor of Science in Computer Science and Game Design. (In a non-core course, a grade of "D" [or 1.0 quality points] is considered passing.) The core courses include all courses except open electives.

ART REQUIREMENT

The following courses are required: ART 105, ART 260, ART 310, CG 102 or CG 201, and CG 125 or CG 225. (Total: 15 credits)

COMPUTER SCIENCE REQUIREMENT

The following courses are required: CS 100, CS 100L, CS 120, CS 120L, CS 170, CS 170L, CS 180, CS 225, CS 230, CS 251, CS 280, CS 311, CS 330, and CS 380. (Total: 36 credits)

DESIGN REQUIREMENT

The following courses are required: GAT 110, GAT 120, GAT 210, GAT 211, GAT 240, GAT 250, GAT 251, GAT 315, and GAT 316. Three additional credits must be selected from other courses with the designation GAT. (Total: 29 credits)

HUMANITIES AND SOCIAL SCIENCE REQUIREMENT

The following courses are required: COL 101, COM 150, ENG 110, and PSY 101. Three additional credits must be selected from other courses with the designation COM, ENG, ECN, HIS, LAW, PHL, PSY, or SOS. (Total: 13 credits)

MATHEMATICS REQUIREMENT

The following courses are required: MAT 140, MAT 150 or MAT 180, MAT 200 or MAT 230, MAT 258, and either MAT 340 or MAT 364. (Total: 18 credits)

PHYSICS REQUIREMENT

One course is required: PHY 200. (Total: 3 credits)

PROJECTS REQUIREMENT

The following courses are required: GAM 100, GAM 150, GAM 200, GAM 250, GAM 302, and GAM 352. Two courses from the following list are also required: GAM 375, GAM 390, GAM 400, GAM 450, and GAM 490. (Total: 34 credits)

OPEN ELECTIVES REQUIREMENT

At least six credits from any of the courses in any department at DigiPen. (Total: 6 credits)

NOTE ON GENERAL EDUCATION COURSES

The following courses satisfy the general education requirement for the Bachelor of Science in Computer Science and Game Design: COM 150 (3), ENG 110 (3), MAT 140 (4), MAT 150 or MAT 180 (4), MAT 200 or MAT 230 (4), MAT 258 (3), PHY 200 (3), PSY 101 (3), and one Humanities and Social Sciences elective (3), for a total of 30 credits.

Bachelor of Science in Computer Engineering

[Updated: June 2014]

[Removed CS 180 from the Computer Science Requirements to correct a misprint in the 2014-2015 Course Catalog. The title of the Recommended Course Sequence Chart for BS in Computer Engineering is here corrected.]

DEGREE REQUIREMENTS

NUMBER OF CREDITS & GPA

The Bachelor of Science in Computer Engineering requires completion of at least 154 semester credits with a cumulative GPA of 2.0 or better. The program typically spans eight semesters of 15 weeks each, or four academic years.

GRADE REQUIREMENTS AND CORE COURSES

Students must receive a grade of “C-” (or 1.7 quality points) or higher in all core courses (or “Pass” for ECE 101L). All required CS, ECE, MAT, and PHY courses are considered core courses. (In a non-core course, a grade of “D” [or 1.0 quality points] or higher is considered passing.)

ART AND MUSIC REQUIREMENTS

The following course is required: ART 210. Students must also take an additional three semester credits of any ANI, ART, FLM, or MUS course. (Total: 5 credits)

COMPUTER SCIENCE REQUIREMENTS

The following computer science courses are required: CS 100, CS 100L, CS 120, CS 120L, CS 170, CS 170L, CS 225, CS 280, CS 315, and CS 330. In addition, students must take twelve semester credits of CS courses chosen from CS 245, CS 246, CS 260, CS 261, or any CS course numbered 300 or higher. (Total: 36 credits)

ELECTRICAL AND COMPUTER ENGINEERING REQUIREMENTS

The following courses are required: ECE 110 or GAM 150, ECE 200, ECE 210, ECE 220L, ECE 260, ECE 270, ECE 300, ECE 310L, ECE 350, ECE 360L, ECE 400 or ECE 420, ECE 410L, and ECE 460L. (Total: 49 credits)

HUMANITIES AND SOCIAL SCIENCE REQUIREMENTS

The following courses are required: COL 101, COM 150, ENG 110, and ECN 350. Students must also take an additional three semester credits of ENG classes numbered 116 or higher. Additionally, students must take three semester credits of social science in HIS, SOS, PSY, PHL, or LAW. (Total: 16 credits)

MATHEMATICS REQUIREMENTS

The following mathematics courses are required: MAT 140, MAT 150 or MAT 180, MAT 200 or MAT 230, MAT 225, MAT 256, MAT 258, and MAT 340. (Total: 24 credits)

PHYSICS REQUIREMENTS

PHY 200, PHY 200L, PHY 250, PHY 250L, PHY 270 and PHY 270L are required. (Total: 12 credits)

ELECTIVES REQUIREMENTS

Nine semester credits of electives of any of the courses offered at DigiPen and an advanced elective consisting of three semester credits from any CS, MAT, or PHY course numbered 200 or above, are required. (Total: 12 credits)

A NOTE ON GENERAL EDUCATION COURSES

The following courses satisfy the general education requirement for the BS in Computer Engineering: ENG 110 (3), COM 150 (3), social science elective (3), ART 210 (2), MAT 140 (4), MAT 150 or MAT 180 (4), MAT 200 or MAT 230 (4), PHY 200 (3), PHY 250 (3), and ECN 350 (3), for a total of 32 credits.

RECOMMENDED COURSE SEQUENCE CHART FOR BS IN COMPUTER ENGINEERING

SEMESTER	COURSE	COURSE TITLE	CORE*	CREDITS
Semester 1	CS 120	High-level Programming I – The C Programming Language	X	3
	CS120L	High-level Programming I Lab	X	1
	CS 100	Computer Environment I	X	3
	CS 100L	Computer Environment I Lab	X	1
	MAT 140	Linear Algebra and Geometry	X	4
	MAT 150 or MAT 180	Calculus and Analytics Geometry I or Vector Calculus I	X	4
	COL 101	College Life and Academic Skills		1
	ENG 110	Composition		3
	Semester Total			20
Semester 2	CS 170	High-level Programming II – The C++ Programming Language	X	3
	CS 170L	High-level Programming II Lab	X	1
	MAT 200 or MAT 230	Calculus and Analytic Geometry II or Vector Calculus II	X	4
	ECE 210	Digital Electronics I	X	4
	PHY 200	Motion Dynamics	X	3
	PHY 200L	Motion Dynamics Lab	X	1
	ECE 110	CE 1st Year Project	X	3
	Semester Total			19
Semester 3	CS 225	Advanced C/C++	X	3
	MAT 225	Calculus and Analytic Geometry III	X	3
	MAT 256	Introduction to Differential Equations	X	3
	ECE 220L	CE 2nd Year Project	X	3
	PHY 250	Waves, Optics, and Thermodynamics	X	3
	PHY 250L	Waves, Optics, and Thermodynamics Lab	X	1
	COM 150	Interpersonal and Work Communication		3
	Semester Total			19
Semester 4	CS 280	Data Structures	X	3
	ECE 200	Electric Circuits	X	3
	ECE 260	Digital Electronics II	X	4
	ECE 300	Embedded Microcontroller Systems	X	3
	PHY 270	Electricity and Magnetism	X	3
	PHY 270L	Electricity and Magnetism Lab	X	1
	MAT 258	Discrete Mathematics	X	3
	Semester Total			20
Semester 5	CS 315	Low-level Programming	X	3
	CS 330	Design and Analysis of Algorithms	X	3
	ECE 310L	CE 3rd Year Project I	X	5
	ART 210	Art Appreciation		2
	ECE 270	Real-Time Operating Systems	X	3
	CS Elective	Any of CS 245, CS 246, CS 260, CS 261, or any CS course numbered 300 or higher		3
	Semester Total			19

SEMESTER	COURSE	COURSE TITLE	CORE*	CREDITS
Semester 6	ECE 420	Digital Signal Processing	X	3
	ECE 360L	CE 3rd Year Project I	X	5
	CS/MAT/PHY Elective	An elective in CS, MAT, or PHY numbered 200 or above	X	3
	MAT 340	Probability and Statistics	X	3
	ECN 350	Engineering Economics		3
	Semester Total			17
Semester 7	ECE 410L	CE 4th Year Project I	X	5
	ECE 350	Control Systems	X	3
	ART & MUS Elective	Any ANI, ART, FLM, or MUS course		3
	ENG Elective	One ENG elective chosen from ENG 116 or higher		3
	Elective	An elective of the student's choice from any department at DigiPen (excluding ECE and CS courses)		3
	CS Elective	Any of CS 245, CS 246, CS 260, CS 261, or any CS course numbered 300 or higher	X	3
	Semester Total			20
Semester 8	ECE 460L	CE 4th Year Project II	X	5
	Open Elective	An elective of the student's choice from any department at DigiPen		3
	Open Elective	An elective of the student's choice from any department at DigiPen		3
	Social Science Elective	Any HIS, SOS, PSY, PHL, or LAW course		3
	CS Elective	Any of CS 245, CS 246, CS 260, CS 261, or any CS course numbered 300 or higher	X	3
	CS Elective	Any of CS 245, CS 246, CS 260, CS 261, or any CS course numbered 300 or higher	X	3
	Semester Total			20
Degree Total				154 minimum

Bachelor of Science in Engineering and Sound Design

[Updated: June 2013]

[BS in Engineering and Sound Design Recommended Course Sequence chart updated with STEM electives.]

RECOMMENDED COURSE SEQUENCE CHART FOR BS IN ENGINEERING AND SOUND DESIGN

SEMESTER	COURSE	COURSE TITLE	CORE*	CREDITS
Semester 1	COL 101	College Life and Academic Skills		1
	CS 100	Computer Environment I	X	3
	CS 100L	Computer Environment I Lab	X	1
	CS 120	High-Level Programming I – The C Programming Language	X	3
	CS 120L	High-Level Programming I Lab	X	1
	GAM 100	Project Introduction	X	3
	MAT 140	Linear Algebra and Geometry	X	4
	MUS 120	Music Theory and Musicianship I	X	2
	MUS 120L	Music Theory and Musicianship I Lab	X	1
	Semester Total			19
Semester 2	CS 170	High-Level Programming II – The C++ Programming Language	X	3
	CS 170L	High-Level Programming II Lab	X	1
	CS 230	Game Implementation Techniques		3
	GAM 150	Project I	X	3
	ECE 101L	Introduction to Engineering Projects	X	1
	MAT 150 or MAT 180	Calculus and Analytic Geometry I or Vector Calculus I	X	4
	MUS 121	Music Theory and Musicianship II	X	2
	MUS 121L	Music Theory and Musicianship II Lab	X	1
	Semester Total			18
Semester 3	CS 180	Operating System I, Man-Machine Interface	X	3
	CS 225	Advanced C/C++	X	3
	ENG 110	Composition		3
	MAT 200 or MAT 230	Calculus and Analytic Geometry II or Vector Calculus II	X	4
	MUS 150	Sound Design Project I	X	2
	MUS 150L	Sound Design Project I Lab	X	2
	PHY 200	Motion Dynamics	X	3
	Semester Total			20
Semester 4	ECE 200	Electric Circuits	X	3
	CS 245	Introduction to Interactive Sound Synthesis	X	3
	FLM 115	History of Film and Animation		3
	MAT 220	Mathematics of Digital Sound Processing	X	3
	MUS 151	Sound Design Project II	X	2
	MUS 151L	Sound Design Project II Lab	X	2
	PHY 250	Waves, Optics, and Aerodynamics	X	3
	Semester Total			19

SEMESTER	COURSE	COURSE TITLE	CORE*	CREDITS
Semester 5	CS 246	Advanced Sound Synthesis	X	3
	CS 251	Introduction to Computer Graphics	X	3
	GAM 200	Project II	X	4
	MUS 250	Sound Design Project III	X	1
	MUS 250L	Sound Design Project III Lab	X	2
	PHY 320	Acoustics I	X	3
	COL 499	Career Search Preparation: Materials, Logistics, and Communication		1
	Semester Total			17
Semester 6	CS 280	Data Structures	X	3
	GAM 250	Project II	X	4
	MUS 251	Sound Design Project IV	X	1
	MUS 251L	Sound Design Project IV Lab	X	2
	PHY 321	Acoustics II	X	3
	STEM Elective	Science Technology Engineering or Math Elective: CS, ECE, MAT, or PHY, over level 200	X	3
	Semester Total			16
Semester 7	COM 150	Interpersonal and Work Communication		3
	GAM 300	Project III	X	5
	Open Elective	An elective of the student's choice from any department at DigiPen	X	3
	STEM Elective	Science Technology Engineering or Math Elective: CS, ECE, MAT, or PHY, over level 200	X	3
	STEM Elective	Science Technology Engineering or Math Elective: CS, ECE, MAT, or PHY, over level 200		3
	Semester Total			17
Semester 8	GAM 350	Project III	X	5
	Open Elective	An elective of the student's choice from any department at DigiPen		3
	HSS Elective	Humanities and Social Sciences Elective		3
	LAW 115	Introduction to Intellectual Property and Contracts		3
	MUS Elective	Music Elective	X	3
	Semester Total			17
Degree Total				143 minimum

Bachelor of Arts in Music and Sound Design

[Updated: October 2013]

[BA in Music and Sound Design degree program updated to a total of 140 total minimum credits. Required courses updated in the Degree Requirements and the Recommended Course Sequence chart.]

DEGREE REQUIREMENTS

NUMBER OF CREDITS AND GPA

The Bachelor of Arts in Music and Sound Design requires completion of 140 credits with a cumulative GPA of 2.0 or better. The program usually spans eight semesters of 15 weeks each, or four academic years.

Students must receive special permission in writing from their academic advisor to take more than 20 credits in either of their first two semesters.

GRADE REQUIREMENTS AND CORE COURSES

Students must receive a grade of “C-“ (or 1.7 quality points) or better in all core courses for the Bachelor of Arts in Music and Sound Design. (In a non-core course a grade of “D” [or 1.0 quality points] is considered passing.) The core courses are: MUS 110, MUS 111, MUS 112, MUS 113, MUS 120, MUS 120L, MUS 121, MUS 121L, MUS 150, MUS 150L, MUS 151, MUS 151L, MUS 210, MUS 211, MUS 212, MUS 213, MUS 220, MUS 220L, MUS 221, MUS 221L, MUS 230, MUS 231, MUS 250, MUS 250L, MUS 251, MUS 251L, MUS 260, MUS 261, MUS 310, MUS 311, MUS 316, MUS 320, MUS 321, MUS 322, MUS 330, MUS 331, MUS 350, MUS 350L, MUS 351, MUS 351L, MUS 410, MUS 411, MUS 415, MUS 416, MUS 450, MUS 450L, MUS 451, MUS 451L, and 9 MUS elective credits.

COMPUTER SCIENCE REQUIREMENTS

The following courses are required: CS 116, CS 175. (Total: 7 credits.)

FILM REQUIREMENTS

The following courses are required: FLM 115 and FLM 151. (Total: 6 credits.)

GAME DESIGN AND DEVELOPMENT REQUIREMENTS

The following courses are required: GAT 110. (Total: 3 credits.)

HUMANITIES AND SOCIAL SCIENCES REQUIREMENTS

The following courses are required: COL 101, COL 499, COM 150, ENG 110, ENG ELEC, LAW 115, and 9 HSS elective credits. (Total: 23 credits.)

HUMANITIES AND SOCIAL SCIENCES ELECTIVES

HSS Electives include courses with the following prefixes: COM (Communications), ECN (Economics), ENG (English), HIS (History), LAW (Law), MGT (Management), PHL (Philosophy), PSY (Psychology), and SOS (Social Sciences).

MATHEMATICS REQUIREMENTS

The following courses are required: MAT 120. (Total: 3 credits.)

MUSIC REQUIREMENTS

The following courses are required: MUS 110, MUS 111, MUS 112, MUS 113, MUS 120, MUS 120L, MUS 121, MUS 121L, MUS 150, MUS 150L, MUS 151, MUS 151L, MUS 210, MUS 211, MUS 212, MUS 213, MUS 220, MUS 220L, MUS 221, MUS 221L, MUS 230, MUS 231, MUS 250, MUS 250L, MUS 251, MUS 251L, MUS 260, MUS 261, MUS 310, MUS 311 or MUS 316, MUS 320, MUS 321, MUS 322, MUS 330, MUS 331, MUS 350, MUS 350L, MUS 351, MUS 351L, MUS 410 or MUS 415, MUS 411 or MUS 416, MUS 450, MUS 450L, MUS 451, MUS 451L, and 9 MUS elective credits. (Total: 83 credits.)

PHYSICS REQUIREMENTS

The following courses are required: PHY 115, PHY 116. (Total: 6 credits.)

OPEN ELECTIVES REQUIREMENTS

At least nine credits from any courses in any department at DigiPen. (Total: 9 credits)

INTERNSHIP OPTION

Students have the option to replace one of the pairs of courses: MUS 450 and MUS 450L, or MUS 451 and MUS 451L, with the internship course MUS 390. All internships must be approved in writing by the program director and internship coordinator, and comply with the DigiPen internship guidelines.

NOTE ON GENERAL EDUCATION COURSES

The following courses satisfy the general education requirement for the Bachelor of Arts in Music and Sound Design: COM 150, ENG 110, FLM 115, LAW 115, PHY 115, PHY 116, and nine HSS elective credits, and three ENG elective credits, for a total of 30 credits

RECOMMENDED COURSE SEQUENCE CHART FOR BA IN MUSIC AND SOUND DESIGN

SEMESTER	COURSE	COURSE TITLE	CORE*	CREDITS
Semester 1	COL 101	College Life and Academic Skills		1
	ENG 110	Composition		3
	FLM 115	History of Film and Animation		3
	MAT 120	Mathematics of Music and Sound I		3
	MUS 110	Private Lessons I: Instrumental or Vocal	X	1
	MUS 112	Vocal Ensemble I	X	1
	MUS 120	Music Theory and Musicianship I	X	2
	MUS 120L	Music Theory and Musicianship I Lab	X	1
	MUS 150	Sound Design Project I	X	2
	MUS 150L	Sound Design Project I Lab	X	2
	Semester Total			19
Semester 2	COM 150	Interpersonal and Work Communication		3
	FLM 151	Visual Language and Film Analysis		3
	MUS 111	Private Lessons II: Instrumental or Vocal	X	1
	MUS 113	Vocal Ensemble II	X	1
	MUS 121	Music Theory and Musicianship II	X	2
	MUS 121L	Music Theory and Musicianship II Lab	X	1
	MUS 151	Sound Design Project II	X	2
	MUS 151L	Sound Design Project Lab	X	2
	PHY 115	Introduction to Applied Math and Physics		3
	Semester Total			18
Semester 3	CS 116	Introduction to Computer Technology and Programming		4
	MUS 210	Private Lessons III: Instrumental or Vocal	X	1
	MUS 212	Vocal Ensemble III	X	1
	MUS 220	Music Theory and Musicianship III	X	2
	MUS 220L	Music Theory and Musicianship III Lab	X	1
	MUS 230	Composition I	X	2
	MUS 250	Sound Design Project III	X	1
	MUS 250L	Sound Design Project III Lab	X	2
	MUS 260	Music History and Literature I	X	3
	Semester Total			17
Semester 4	CS 175	Scripting Languages		3
	HSS Elective	Humanities and Social Sciences at Elective		3
	MUS 211	Private Lessons IV: Instrumental or Vocal	X	1
	MUS 213	Vocal Ensemble IV	X	1
	MUS 221	Music Theory and Musicianship IV	X	2
	MUS 221L	Music Theory and Musicianship IV Lab	X	1
	MUS 231	Composition II	X	2
	MUS 251	Sound Design Project IV	X	1
	MUS 251L	Sound Design Project IV Lab	X	2
	MUS 261	Music History and Literature II	X	3
	Semester Total			19

SEMESTER	COURSE	COURSE TITLE	CORE*	CREDITS
Semester 5	COL 499	Career Search Preparation: Materials, Logistics, and Communication		1
	ENG Elective	English Elective		3
	HSS Elective	Humanities and Social Sciences Elective		3
	MUS 310	Private Lessons V: Instrumental or Vocal	X	1
	MUS 320	Conducting and Instrumentation	X	2
	MUS 330	Advanced Composition I	X	3
	MUS 350	Sound Design Project V	X	1
	MUS 350L	Sound Design Project V Lab	X	2
	PHY 116	Physics of Music and Sound		3
	Semester Total			19
Semester 6	GAT 110	Game History		3
	MUS 311	Private Lessons VI: Instrumental or Vocal	X	1
	MUS 321	Introduction to Orchestration	X	3
	MUS 322	Adaptive Music for Video Games	X	3
	MUS 331	Advanced Composition II	X	3
	MUS 351	Sound Design Project VI	X	1
	MUS 351L	Sound Design Project VI Lab	X	2
	Semester Total			16
Semester 7	Open Elective	An elective of the student's choice from any department at DigiPen		3
	Open Elective	An elective of the student's choice from any department at DigiPen		3
	HSS Elective	Humanities and Social Sciences Elective		3
	MUS 410	Private Lessons VII: Instrumental or Vocal	X	1
	MUS 450	Sound Design Project VII	X	1
	MUS 450L	Sound Design Project VII Lab	X	2
	MUS Elective	Any MUS Course	X	3
	Semester Total			16
Semester 8	Open Elective	An elective of the student's choice from any department at DigiPen		3
	LAW 115	Introduction to Intellectual Property and Contracts		3
	MUS 411	Private Lessons VIII: Instrumental or Vocal	X	1
	MUS 451	Sound Design Project VIII	X	1
	MUS 451L	Sound Design Project VIII Lab	X	2
	MUS Elective	Music Elective	X	3
	MUS Elective	Music Elective	X	3
	Semester Total			16
Degree Total				140 minimum

Course Descriptions for the Academic Year 2014-2015

Course Descriptions for the Academic Year 2014–2015

DEPARTMENT OF ANIMATION AND PRODUCTION

PROJECTS COURSES

PRJ 300 **Limited-Scope 3D Production** (5 Cr.)

[Updated: November 2013]

Prerequisite(s): ART 251, ART 300, ART 350, CG 275, PRJ 251

In PRJ 300 students will be guided through the elements of creating a short animated piece from design through pre-production including designing and building a character as well as an environment, then planning the animation. The remainder of the production continues in PRJ350.

PRJ 400 **Senior Cinematic Project I** (5 Cr.)

[Updated: October 2013]

Prerequisite(s): ART 350, ENG 116, PRJ 350

This course is the first half of a two semester sequence on the production of an innovative short film. It focuses on concept, pre-production and asset creation in a team environment. Teams include other BFA students registered in PRJ 400. Projects can be produced in 2D or 3D. Additional topics may include effective presentations, managing scope and team dynamics.

PRJ 402 **Senior Game Art Project I** (Cr. 5)

[Updated: October 2013]

Prerequisite(s): CG 310 or CG 350, ART 350, ENG 116, PRJ 350

This course is the first half of a two semester sequence on the production of an innovative interactive experience. It focuses on concept, pre-production and asset creation in a team environment. Students may use current software and hardware technologies such as web technologies, consoles, mobile devices. Teams include other BFA students registered in PRJ 402 and will collaborate with students registered for GAM classes. Projects can be produced in 2D or 3D. Additional topics may include effective presentations, managing scope and team dynamics.

PRJ 450 **Senior Cinematic Project II** (Cr. 5)

[Updated: November 2013]

Prerequisite(s): PRJ 400

With the completed pre-production work for a cinematic project done, students are then guided through final rendering and post-production. Students are assisted through the challenges of commercial art direction, quality control, production deadlines, and team dynamics, as well as many technical challenges.

PRJ 452 **Senior Game Art Project II**

[Updated: November 2013]

Prerequisite(s): PRJ 402

Having completed the pre-production work for a team-based interactive experience production in PRJ 402, students are guided through final implementation, debugging and polish of their projects. Students face the challenges of commercial art direction, quality control, production deadlines, and team dynamics, as well as the many technical challenges. Teams include other BFA students registered in PRJ 452 and will collaborate with students registered for GAM classes.

DEPARTMENT OF COMPUTER SCIENCE

COMPUTER SCIENCE COURSES

CS 312 **Advanced Databases** (Cr. 3)

[New: December 2013]

Prerequisite(s): CS 311

This course will cover advanced database topics with particular emphasis on the large scale database systems used by modern applications. Data mining and data warehousing will also be explored with emphasis on search and analysis. Non-relational databases will also be covered in detail. Students will examine case studies of real-world companies and the techniques they use to manage vast quantities of ever-growing data.

CS 355 **Parallel Programming** (Cr. 3)

[New: November 2013]

Prerequisite(s): CS 330

This course presents an introduction to multi-threaded and distributed programming. The course covers some classical problems and synchronization mechanisms, as well as modern libraries that support parallel programming. The course also covers distributed programming models and applications to video-game programming.

CS 375 **Compilers and Interpreters** (Cr. 3)

[New: November 2013]

Prerequisite(s): CS 330, MAT 258

This course presents fundamental topics in the field of compiler construction. Topics covered in the course will help students understand and implement a compiler for a high-level programming language. The course will guide the students towards an in-depth understanding of compilation techniques and runtime implementation for a modern programming language.

CS 381 Introduction to Artificial Intelligence (Cr. 3)

[Updated: November 2013]

Prerequisite(s): CS 330, MAT 258

This course covers fundamental areas of Artificial Intelligence, including various search algorithms, game playing, constraint satisfaction problem, propositional and first-order logic, and planning. The course will also explore practical skills relevant to implementation of AI techniques, practices, and design solutions.

CS 385 Machine Learning (Cr. 3)

[New: November 2013]

Prerequisite(s): CS 381

This course introduces a wide range of machine learning techniques. The topics include early machine learning algorithms like genetic algorithms, classifier systems, neural network, and various clustering algorithms. Then the course explores probabilistic algorithms like Bayesian networks, hidden Markov models, and Monte Carlo methods.

DEPARTMENT OF DIGITAL ARTS

COMPUTER GRAPHICS COURSES

CG 225 Introduction to 3D Animation (Cr. 3)

[Updated: November 2013]

Prerequisite(s): ANI 101, ART 101, ART 125

This course introduces students to industry-standard software and practices of 3D animation. The course begins with basic information such as interface organization strategies, equipment options, and production elements. It also introduces techniques and critical thinking skills for texture mapping, modeling, rigging, lighting, cameras, and animation. Additionally, it looks at basic interface customization options and strategies in 3D graphics, culminating in a series of applied problems in 3D production techniques.

CG 330 Hair and Cloth Simulation (Cr. 3)

[New: July 2013]

Prerequisite(s): CG 275

This course focuses on concepts and tools for the construction and simulation of hair and clothing models in 3D animation. Students explore techniques for generating models suitable for simulation, and the complexities inherent in simulating their behavior in the context of animation. Topics may include: evaluating and interpreting reference material, using a simulator, using parameters to control behavior, UV parameter assignment and texturing, detailing a model, fixing simulation problems, and shading and lighting as it pertains to their models.

CG 360 Light and Rendering (Cr. 3)

[Updated: July 2013]

Prerequisite(s): FLM 201 or FLM 210, CG 275

CG artists must develop strong lighting skills. This course looks at the subject through the world of film cinematography and covers the process of lighting both interior and exterior virtual environments. At the technical and artistic levels, students explore rendering techniques and strategies that efficiently produce a more convincing result.

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

ELECTRICAL AND COMPUTER ENGINEERING COURSES

ECE 310L CE 3rd Year Project I (Cr. 5)

[Updated: October 2013]

Prerequisite(s): CS 225, ECE 200, ECE 210, ECE 220L, ECE 300, PHY 200

In this course, students work in small teams to design, build, program, document, and test an interactive embedded device. Students are expected to integrate a microprocessor with various peripheral devices such as storage, input, sensors, and display devices, into a portable embedded platform. Moreover, they are expected to develop team management skills, presentation skills, and critical design processes, as well as study and implement the theory behind human-machine interaction and interface devices.

DEPARTMENT OF FINE ARTS

ART COURSES

ART 300 Perspective, Backgrounds and Layouts (Cr. 3)

[Updated: November 2013]

Prerequisite(s): ART 201, CG 201

This course explores the animation pre-production skills of background and layout art. It emphasizes professional applications, techniques, and standards of quality. Students are guided through classical depth cue and perspective systems as they apply this knowledge to the creation of animation backgrounds and layouts. Additionally, students explore means of using drawing to create elements such as camera lens illusions, architectural space, theatrical sets, game visual design, matte painting, and surface texture.

DEPARTMENT OF GAME SOFTWARE DESIGN AND PRODUCTION

GAME PROJECTS COURSES

GAM 302 Project III for Designers (Cr. 5)

[Updated: June 2013]

Prerequisite(s): GAM 250 or GAM 252, GAT 251 or CS 280, PHY 115 or PHY 200, GAT 211

Credit may be received for either GAM 300 or GAM 302, not both.

This project is divided into two semesters and focuses on the design of an advanced real-time game or simulation. Students work in teams either made up only of designers or with students from GAM 300. Designer-only teams can use commercial game engines, middleware, or other libraries that teams with GAM 300 students cannot. Additional topics may include online portfolios, effective presentations, managing scope, and advanced team dynamics.

DEPARTMENT OF MUSIC

MUSIC COURSES

MUS 115 Fundamentals of Music and Sound Design (Cr. 3)

[Updated: May 2013]

Prerequisite(s): None

Credit may be received for MUS 115 or for FLM 275, but not for both.

This course offers an introduction to the fundamentals of music and sound design, and an overview of the production of music and sound for animation, film, and video games. Topics include music notation, key, meter, rhythm, melody, harmony, texture, tempo, genre and form; historical musical styles; dialog and timing; and digital audio production methods and techniques.

DEPARTMENT OF PHYSICS

PHYSICS COURSES

PHY 200 Motion Dynamics (Cr. 3)

[Updated: September 2013]

Prerequisite(s): MAT 150

This calculus-based course presents the fundamental principles of mechanics, including kinematics, Newtonian dynamics, work and energy, momentum, and rotational motion.

PHY 250 Waves, Optics and Thermodynamics (Cr. 3)

[Updated: September 2013]

Prerequisite(s): MAT 200, PHY 200

This calculus-based course presents the fundamentals of fluid dynamics, oscillations, waves, geometric optics, and thermodynamics.

PHY 270 Electricity and Magnetism (Cr. 3)

[Updated: September 2013]

Prerequisite(s): PHY 250

This calculus-based course presents the basic concepts of electromagnetism, including electric fields, magnetic fields, electromagnetic forces, DC and AC circuits, and Maxwell's equations.

Intensive English Preparation (IEP)* Course Requirements and Course Descriptions

[Updated: June 2014]

[Placement Level IV renamed to College Bridge. Deprecated information removed from the Satisfactory Progress policy.]

INTENSIVE ENGLISH PREPARATION COURSE REQUIREMENTS

NUMBER OF CREDITS AND GPA

The Intensive English Preparation courses require completion of the minimum credits of the required level with a cumulative GPA of 2.0. Students will be placed to start at a specific level based on the outcome of a Placement Test to be taken after their acceptance into a DigiPen degree program. The minimum number of credits required for completion of each level is specified below:

- Placement Level I requires completion of at least 14 credits
- Placement Level II requires completion of at least 14 credits
- Placement Level III requires completion of at least 14 credits
- Placement in College Bridge requires completion of at least 16 credits

SATISFACTORY PROGRESS

MINIMUM GPA REQUIREMENT

While enrolled at DigiPen, students are required to maintain satisfactory academic progress (SAP) to remain in good standing in their program. SAP is based on the cumulative grade point average of all courses taken at DigiPen Institute of Technology to meet the qualitative standard. A student must maintain a cumulative GPA of 2.0 or better to maintain SAP. Failure to meet this standard will place a student on Academic Warning and may lead to the student's termination from the Institute.

FAILING TO MEET MINIMUM GPA REQUIREMENT

Students who fail to maintain the required minimum cumulative GPA will be placed on Academic Warning the semester following the one where their cumulative GPA falls below the minimum required. Students are removed from Academic Warning as soon as their cumulative GPA is above 2.0. Students who earn a 2.0 during their probationary semester but do not

raise their cumulative GPA above the minimum requirement will continue on Academic Warning until their cumulative average reaches 2.0. While on Academic Warning, students will be restricted to a maximum course load of 15 credits. These students must achieve a GPA of 2.0 or higher during their probationary semester. Failure to satisfy these requirements will result in academic expulsion, and expelled students must wait 12 months before they can apply for readmission.

INTENSIVE ENGLISH PREPARATION CURRICULUM CHART

LEVEL	SEMESTER	COURSE #	COURSE TITLE	CREDITS
Level 1	1	IEP 010	Reading & Grammar I	4
	1	IEP 011	Writing & Grammar I	4
	1	IEP 012	Listening & Speaking I	4
	1	IEP 001L	English Language Lab I	2
Level 2	2	IEP 020	Reading & Grammar II	4
	2	IEP 021	Writing & Grammar II	4
	2	IEP 022	Listening & Speaking II	4
	2	IEP 002L	English Language Lab II	2
Level 3	3	IEP 030	Reading & Grammar III	4
	3	IEP 031	Writing & Grammar III	4
	3	IEP 032	Listening & Speaking III	4
	3	IEP 003L	English Language Lab III	2
College Bridge	4	IEP 040	College Reading & Grammar IV	4
	4	IEP 041	Academic Writing & Grammar IV	4
	4	IEP 042	Lecture Comprehension & Presentation	4
	4	IEP 043	Professional Vocabulary	4