Lakeside View Global Vision

CEGEP JOHN ABBOTT COLLEGE

(420-P43-AB) Enterprise Java Bean and Frameworks

Certificate Program in Internet Programming & Development (A.E.C. LEA.BN)
Full-Time Day Training Program

Parameters

Course Number	420-P43-AB
Course Title (Long)	Enterprise Java Bean and Introduction to Frameworks
Course Title (Short)	EJB
Course Weighting	1-hour lecture + 2 hours laboratory + 2 hours homework
Number of Credits (Units)	2.00
Number of Hours of Instruction	45
Competencies Fully Met	DC65 – Write Enterprise Java Beans applications to create business components, learning frameworks
Prerequisite course	(420-P24-AB) Programming II Advanced Java Programming
Timetable and Location	08.30AM to 01.30PM in BH-213
Start Date	June 27, 2018
End Date	July 10, 2018
Semester	Winter 2018
Instructor	Harpreet Singh
Contact Information	The instructor can be reached by MIO within the JAC Portal or by email harpreet.singh@johnabbott.qc.ca

Course Description

The objective of this course is to train students to write Enterprise Java Beans to create business components. The student will learn to create the four types of beans: session, entity, singleton, and message-driven, and how to deploy them.

Introduction to frameworks will be given. Students will be able to learn different frameworks and will be able to create application based on Spring Framework. They will learn the Model-View-Controller architecture. The student will also learn how to use an Object-Oriented approach to database access using tools such as Hibernate.

Course Placement within the Program

This course is given in the third semester of the program.

Course Objectives

Upon successful completion of this course, the student will be able to understand:

- The fundamentals of building Java Beans
- Use of Java Beans in applications
- the use of Entities (e.g. as implemented by Hibernate framework)
- Maven, Database connectivity, Java Server Pages
- MVC Architecture
- Spring Framework and implementation

Course Content

1. Enterprise JavaBeans introduction
2. Frameworks Introduction
3. Java Server Pages
4. Learning Model View Controller
5. Configuring Spring based Projects

Course Learning Activities

1. Lectures/Demonstrations: Important material from the text and outside sources will be covered in class. You should plan to take careful notes as not all material can be found in the texts or readings. Discussion is encouraged as is student-procured, outside material relevant to topics being covered.
2. Assignments: Concepts Reviews, Skills Reviews, Independent Challenges and other projects and readings will be periodically assigned to help support and supplement material found in the lessons. These assignments may require the application of various software applications.
3. Tests: Occasional scheduled or unscheduled tests will be given to help ensure you stay up with assigned material.
4. Exams: The exams will be closed book/note and will test assigned readings and material discussed in class.
5. Team Term Project: The term project focuses on methodologies and tools for this course related technologies using frameworks. This project is structured to be as realistic as possible given the time available in the term.
6. Classroom Activity: Participation and Discussion

Instructional Methodology

The course is a combination of theory, classroom labs and case work. The students will be assigned cases and asked to analyze and discuss them.

Students will

- Work alone

- Work in groups

This course requires your individual presence and your active, consistent and sustained participation in your individual work. Your individual responsibilities are to complete the work assigned and ready to work at the start of each class.

Evaluation Policy

This course will be marked of 100 points based on Assignments, Tests, Term Project, and Final Exam. To obtain the passing grade in this subject, a student must achieve a grade of 60% or better on the overall course

Evaluation	*Points*
Assignments:	20 (2 assignments worth 10% each)
Tests:	30 (15% each)
Term Project:	20 (Breakdown will be in the Project Description)
Final Exam:	30

Textbook and References:

Texts and Other Materials: Course syllabus; text and workbook, reference handouts; assignment handouts; printed course manual; access to the Internet and World Wide Web.

Attendance Policy

Attendance is mandatory to student's success in this course. Attendance will be taken at each session (see IPESA Section 5.2 – Page 19). Unexcused absences should not account for more than 20% of the total course time. If a student misses 20% or more of the total course hours due to unexcused absences, the instructor may prohibit further attendance and assign the grade earned to-date in the course as the final grade.

Academic Policy - Cheating and Plagiarism

Cheating and/or plagiarism are offences which will not be tolerated by the College. Such offences occur when a student violates the procedures governing the administration of examinations, tests or other means of evaluating student achievement in a subject or program. Instructors may assign a grade of zero for any assignment, test, or examination that involves cheating or plagiarism. John Abbott College's policy on Cheating and plagiarism will be strictly enforced (see IPESA Section 5.5).

Teaching Requirements

Classroom/Lab Requirements: Computer lab equipped with industry-standard machines (Intel processors), Windows operating systems, commonly used hardware and software from the Web programming logistics industry, Internet browser.

Hardware/Software Skills Needed by the Instructor: Must have a thorough knowledge of Web Programming and Analysis and should have extensive knowledge of the technology used in this industry.

Competencies CODE: DC65

OBJECTIVE	STANDARD

Statement of the Competency
Write Enterprise Java Beans applications to create business components.
AND
Introduction to Frameworks, their implementation and uses
	Achievement Context
	• In a classroom and computer laboratory environments – using:
	  ○ Using a workstation and the appropriate software
	  ○ Based on situations representative of the workplace and requiring the development of applications involving a limited number of classes
	  ○ Using all the documentation available on the applications to be developed
	• In written assignment(s) and/or in-class exam(s)
	• In simulation exercises
	• Working alone and in groups
	• Based on industry standards

Elements of the Competency	**Performance Criteria**
1. Explain J2EE Java Technology	1.1 Explain J2EE architecture – its tiers and components 1.2 Explain J2EE services – APIs and their versions that are available for J2EE application 1.3 Explain the different components and how they work at runtime
2. Describe the Presentation logic	2.1 Build presentation logic 2.2 Learn the servlet lifecycle 2.3 Build servlets 2.4 Learn best practices for developing basic servlets
3. Explain Java Server Pages	3.1 What are JSPs 3.2 Different types and its usage 3.3 Write programs in JSPs 3.4 Write a singleton EJB 3.5 Explain message-driven beans
4. Entity framework	4.1 Explain what is an Entity (POJO) and its lifecycle 4.2 Explain what Entity Manager and what operations it can perform 4.3 Useful techniques, optimizations, and patterns for using Entities as a means of database access
5. Frameworks	5.1 Learn different type of frameworks 5.2 Their implementation
6. Spring MVC Architecture	6.1 Learn MVC architecture 6.2 MVC implementation

Classroom Policies

Students who miss a class will receive a mark of zero on any in-class assignments or quizzes given in the period without the opportunity for any make-up work. Exceptions to this policy apply only in the event of absence due to medical or special reasons or religious holidays.
All electronic communication and music devices (e.g., iPad, tablets, cell phones, etc.) must be turned off while in class, unless authorized otherwise by the teacher.
Class time is limited, and each student at John Abbott is entitled to the very best educational experience in every class. It is important that the atmosphere of each classroom or lab be as conducive to the learning process as possible. The following guidelines have been established so as to create and maintain such an atmosphere.
Inappropriate behaviour in the classroom includes the following:

- Speaking while another person (teacher or student) has the floor (that is, he/she is addressing the class as a whole).
- Using cellular phones or other electronic devices not related to the course.
- Threatening, harassing, or offensive behaviour towards any person in the class, other students, teachers or College staff.
- Use of derogatory language or referring directly or indirectly to someone else in the class in a rude manner or using offensive language.
- Misuse or abuse of the College's computers, telephone systems or other equipment.
- Speaking, reading or writing about subjects which are not part of the current class discussion.
- Arriving late, leaving early, and leaving the room for any non-emergency without having teacher approval and the courtesy to make this known.
- Eating or drinking in the computer laboratories is forbidden.

College Policies

Policy No. 7 – IPESA, Institutional Policy on the Evaluation of Student Achievement:
http://www.johnabbott.qc.ca/wp-content/uploads/2014/12/2011-IPESA-FINAL-website-JAN-2013-rev-Dec-102014.pdf

- **Changes to Evaluation Plan in Course Outline (Article 4.3)**

Changes to the evaluation plan, during the semester, requires unanimous consent.

- **Mid-Semester Assessment MSA (Article 3.3)**

Students will receive an MSA in accordance with College procedures.

- **Religious Holidays (Article 3.2)**

Students who wish to observe religious holidays must inform their teacher in writing within the first two weeks of the semester of their intent.

Student Rights and Responsibilities

- **(Article 3.2, item 19.)**

It is the responsibility of students to keep all assessed material returned to them in the event of a grade review. (The deadline for a Grade Review is 4 weeks after the start of the next regular semester.)

 (Article 3.3, item 7.)

Students have the right to receive the results of evaluation, for regular day division courses, within two weeks. For evaluations at the end of the semester/course, the results must be given to the student by the grade submission deadline. Where applicable: for intensive courses (i.e.: intersession, abridged courses), timely feedback must be adjusted accordingly.

 Cheating and Plagiarism (Article 8.1 & 8.2)

Cheating and plagiarism are serious infractions against academic integrity which is highly valued at the College; they are unacceptable at John Abbott College. Students are expected to conduct themselves accordingly and must be responsible for all of their actions.

Cheating

Cheating means any dishonest or deceptive practice relative to examinations, tests, quizzes, lab assignments, research papers or other forms of evaluation tasks. Cheating includes, but is not restricted to, making use of or being in possession of, unauthorized material or devices and/or obtaining or providing unauthorized assistance in writing examinations, papers or any other evaluation task and submitting the same work in more than one course without the teacher's permission. It is incumbent upon the Department through the teacher to ensure students are forewarned about unauthorized material, devices or practices that are not permitted.

Plagiarism

Plagiarism is a form of cheating. It includes the intentional copying or paraphrasing (expressing the ideas of someone else in one's own words), of another person's work or the use of another person's work or ideas without acknowledgement of its source. Plagiarism can be from any source including books, magazines, electronic or photographic media or another student's paper or work.