

The comprehensive system that was developed and installed by Enterprise Computing Solutions P.Ltd. had provision that took care of

- **Configuration Module**
 - **Schools** - Setting up of different schools (departments) within the institution such as Physics, Chemistry, Biology and Mathematics
 - **Exam Types** – To note whether the course is a Theory course, Lab course or Project course.
 - **Course Types** - There are two types of course. Foundation course and Core course.
 - **Courses** - Setting up of courses available across different schools in the institution. Makes note of Name of the course, Number of Credits for which the course is offered and School under which the course falls
 - **Programs** - Setting up of all programs offered by institution. (eg. BSMS, MS-Exit, iPhD, PhD-Jan, PhD-Aug). Each program will require the student to complete a set number of semesters and credit requirements. Credit requirements will be different across the different types of programs offered.
 - **Semesters** - In a year there are two semesters. Jan to June is called Spring and July to December is called Rain. All programs start in Rain semester except for PhD-Jan batch for which it starts in Spring . (If a program started in Rain-2025, the next semesters are Spring -2026, Rain-2026, Spring -2027 and so on.)
 - **Residences** - To set up all the hostels available at the institution. Along with it assigning wardens
 - **User Types** - To note all types of users. Office, Faculty, Warden, Medical Officer, Registrar, etc.
 - **Leave Types** - Setting up different types of leave and the flow of approval required.
 - **Course Evaluation questions and the options associated with it**
- **Employee Module**
 - **Employee Induction.** Form to register faculties, dean, academic officers, etc.
- **Student Module**
 - **Student induction.** A feature where the students are enrolled to a particular Program-Batch
 - Registration of student Noting entire details of the Student
 - Personal Details - DoB, blood group, immediate family details, local guardian, Emergency Contact, Addresses- Present and Permanent
 - Education Qualification Details - School in which he/she studied 10th and 12th, Percentage obtained.

- Through which portal that student has applied for the program.
- Assigning them login credentials
- Assigning them to hostel
- Option to note disciplinary actions taken against the student
- Option to note extra-curricular activities taken up by the student.
- **Quick Student Induction.** A feature added in to fast forward the induction process. This captured only limited and necessary information.
- **Roll Number Generation.**
- **Updating Fees receipt.** Only on updating this, the student will be allowed to perform course registration.
- **Student Groups** - Splitting the students under a program batch to groups. This helps for the BSMS batches when they are in the first 4 semesters to avoid crowded labs. A group will be in physics lab while the other groups will be in biology or chemistry lab.
- **Master detail update request.** Can send a request to update personal master data.
- **Academic Module**
 - **Assigning Courses to particular semester of a program-batch.** At the start of the semester the institution will finalize on the courses offered for the semester across all batches.

During the first four semesters of BSMS program, all students will take almost the same set of courses except for may be the Elective courses. BSMS students from 5th semester onwards along with all the iPhD students and PhD students from their 1st semesters will have a set of courses to choose from, based on the school in which they are allotted.

Minor courses - A course offered by a school can be offered to other schools as Minor courses. For example, a course offered to students of school of Biology can be made available as Minor course for students taking Major in Physics.

Elective courses - A course can be offered as an elective for the students of the same school.

AOE - These are courses which are offered as electives for students falling under other school.

 - **Course Faculty mapping** - To show up the right course while taking attendance, entering marks or checking course evaluation.
 - **Assigning Faculty Advisor** - Assigning the faculty who will be guiding a student
 - **Pre course registration** - The institute will have an idea of which all courses they are planning to offer in the next semester. Based on the same the institution can open up a portal where the students can opt for courses they will take up if offered.

This can form a guide for the institution to decide which all courses are to be really offered, which all are to be taken out and what new they can bring in in the next semester.

Not necessary the same set of courses will be offered when the semester starts.

- **Course Registration** - The list of courses offered for the semester is finalized, the students know whether he/she has moved on to the next semester or not and now has in front of him/her a screen to choose courses from a list of offered in the current semester. The student has an option to try out a course.

For the first four semesters of BSMS, the courses shown will be the same across all schools. It will include courses from all the schools for the semester and list of electives offered. Beyond 4th semester and for all other program students (across all semesters) the student will see courses(core and elective) offered under his/her school and Minor and AOE courses offered under other schools.

If the student failed in a course and that course is offered in the current semester for some other batch, those courses will also be shown as available.

In rare circumstances, instead of a particular course that he/she failed, the student can opt another course known as **course replacement**.

- **Drop Course** with W Grade in grade card or completely. A student can drop the course he/she took in the start itself and consider it as trialling. In such circumstances a Grade should not show up in the Grade card for the course. Otherwise if the course is dropped after an exam, it should show up as W. Under rare circumstances, the admin can take this out with a trace in the Grade card.
- **Course (Backlog) Replacement** - When a course is no longer offered and a replacement has to be set for the students to get the new course during course registration or pre course registration.
- **Setting Major and Minor Project topic and guide** - A provision to set the major and minor project topic being taken and under which guide the student is undertaking the project.
- **Setting Research topic and guide** - A provision to set the research topic being taken and under which guide the student is undertaking the research.
- **Setting PhD topic and guide** - A provision to set the PhD thesis topic being taken and under which guide the student is undertaking the thesis.
- **Mark Entry**. A faculty can go in and see all the courses he/she is taking for the semester and start entering marks. By default there is a First Mid semester exam, second Mid- semester exam and a Final Exam.

First and Second Mid- semester examination mark entries are pretty straight forward. You have a maximum and needs to make sure marks given to students are less than or equal to max. Some students might be absent for the exam, in which case it should show as an A (for absent). If the leave is marked by the administrator, then the exam is not considered while calculating course total in final exam. If it is not marked then it is considered as a 0.

There are circumstances where First Mid semester or Second Mid semester or both won't be conducted.

On entering the Final Examination marks, the faculty might also enter the internal marks. Once captured, the Final, Internal and all the Mid semester marks are made use of, to calculate the Course Total and the Grade for each student.

The way Course Total is calculated and the Grade is finalized may vary from course to course. Hence we have given an option to calculate the course total for each final exam results captured and to make a note of the mark ranges for each grade.

Once again if the student wishes to drop the subject initially itself, he/she is not considered for mark entry else if the student drops at a later point of time, a W is given.

If the student is absent for the Final exam, an "I" grade is given initially. He will be given an option to attend a retest.

The students who have failed in the course final exam will also be given an option to write the retest.

The student who failed in the Final but passed in the retest will get maximum of D grade. For the students who were absent, they will be given grade according to the earlier calculation.

We had also given an option to Freeze the mark list from any updates. Once frozen no updates can be done from the faculty side.

For Research courses, we do not give marks. Instead we mark only PASS or FAIL.

- **Major Allocation.** Similar to Course Registration, the student has the option to opt the major he/she would like to pursue. Once the student has completed the 4th Semester, we have a logic in place to calculate the score the student has received for each school based on the gpa for the school subjects and the choice number. Based on the score the students are allotted to schools. We have an override mechanism in place, where the admin can assign the schools manually.
- **Course Evaluation.** On completion of final exam, students are given an option to evaluate the course and the faculty. Window opened by admin for students and faculties separately
- **Semester Grade card.** Generation of semester grade card and sending the grade card as email to the students on finalizing all course totals and grades.
- **Promotion.** Students who are eligible for promotion are moved to the next semester of the program batch. Others who are eligible to continue pursuing the program are **Transferred to next semester of the subsequent program batch.** The rest are **Removed from Rolls.** For iPhD, removal of rolls post their 4th semester can be considered as **MS-Exit.**
- **Leave and Attendance module**
 - **Applying for leave.** The students can apply for leaves - casual and medical. Both types of leave have been assigned an approval flow. The users(faculty advisor, office admin, dean, warden, etc) falling in different levels of approval flow will get the request to Approve or Reject when it is their turn.

- **On Leave for an Exam.** Provision to set whether the student was on leave for an exam due to a genuine reason
- **Reports**
 - Grade card
 - Semester Grade card
 - Year Grade card
 - Grade card
 - Grade Transcript
 - Convocation report
 - Course Registration
 - Students registered for a course
 - Courses registered by students of a Program-Batch
 - Students yet to perform course registration for the semester
 - Summary - Number of students registered against each course offered in the semester
 - Pre-Course Registration (same as above)
 - Mark list
 - Individual Mid-semester
 - Combined Mid- semester
 - Final
 - Count of each grade given for courses offered in a semester
 - Student AGPA
 - Major
 - Program-Batch students of each major
 - Remaining Backlogs
 - Faculty Advisor
 - Student who are eligible to write exam
 - Removed from Rolls
 - Course Evaluation
 - Students who are yet to complete course evaluation
 - Final report

The Solution proposed

We have to conduct a study to fine-tune the requirements to trim the system and make it more efficient and also clear the grey areas. Noted below are the initial observation based on the discussions we had with the institute prior to bidding.

the Institution currently needs ARK software that pulls from student and faculty master data and course registration data from an existing system that the Institution is making use of to

- Enter marks,
- Generate Grade cards and Certificates

As per the current understanding, the system will need the following

- Configuration Module
 - Programs
 - Semesters
 - Batches and Semesters associated with them
 - Course Types
 - Courses
 - Assigning Course to batch semesters
- Synchronization Module to pull data
 - Related to Students
 - Related to Faculties
 - Related to Course Registration(Need to clarify on this)
- Academic Module
 - Mark entry
 - Promotion, Transfer of batch, Removal from Rolls and MS-Exit
- Reporting Module
 - Certificate Generation

- Current student induction screen

Register Student

Application Number *	Application Number	
First Name Name(Student) * First Name (Parent)* First Name	Middle Name Name(Student) * Middle Name (Parent) Middle Name	Last Name Name(Student) * Last Name (Parent)* Last Name
Gender * <input checked="" type="radio"/> Male <input type="radio"/> Female Date of Birth * <input type="text" value="dd-mm-yyyy"/> <input type="button" value="Calendar"/>		
Contact No. of Student	Contact Number	
Contact No. of Parent	Contact Number	
Residence Phone No.	Residence Phone No.	
Email	Primary Email	
Blood Group	[--Select--]	
Program *	[--Select--]	
Year *	[--Select--]	
Semester *	[--Select--]	
Channel *	<input type="radio"/> KVPY <input type="radio"/> JEE <input type="radio"/> STATE/ CENTRAL BOARD	
Hostel Address *	[--Select--]	
Faculty Advisor *	[--Select--]	
Room Number *	Room Number	
User Id *		
Password *	Password	
Present Address <input type="checkbox"/> Same as Present Address		
Address Line 1 *	Address Line 1	
Address Line 2	Address Line 2	
Country *	[--Select--] <input type="button" value="+"/>	
State *	[--Select--] <input type="button" value="+"/>	
City *	[--Select--] <input type="button" value="+"/>	
Pin code *	Pin code	
Permanent Address	Address Line 1 * <input type="text"/> Address Line 2 <input type="text"/> Country * <input type="text"/> State * <input type="text"/> City * <input type="text"/> Pin code * <input type="text"/>	

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