AMERICAN UNIVERSITY OF IRAQ
SULAIMANI

ITE404 – Web Application Programming
Department of IT and SE

1	**Course Information** *Lecture Meeting Days and Times: Monday/Wednesday (**9:45 – 11:15**)* *Room location: **B-F1-16*** *URL of Course Website:* https://lms.auis.edu.krd/course/view.php?id=1259 *Credits and Contact Hours:* 3 *Prerequisites: ITE303, ITE304, and ITE305* *Co-requisites: None*

2	**Instructor Details**	
	Name: Chnoor M. Rahman	*Office: B-F1-07* *Ext:* *Email: chnoor.maheadeen@auis.edu.krd*
	Office Hours: Mondays & Wednesdays: **1:00-2:00**	

Communications:
- Preferred method of communication is Email.
- Emails will be responded to within 24 hours.
- Grades for all types of assessments will be announced within a week.

3	**Course Catalogue Description** This course introduces students to Web server programming and scripting. It concentrates on familiarizing students with a server-side programming language such as PHP. Students will learn valuable skills necessary for developing HTTP-based applications. This course builds on ITE304, Fundamentals of Web Systems, to introduce the students to deeper understandings of dynamic Web systems. The course starts by introducing server-side programming fundamentals such as cookies, sessions and HTTP methods handling. Through examples, students will engage in building database-driven applications. Advanced topics such as RESTful web services, rich client integration, and web performance optimization are also well covered in this course.

4	**Course Delivery: Teaching/Learning Approaches** The main exchange platform for the materials with students is Moodle. Various resources will be shared on the course's Moodle page including important and continuous updates. For example, PDF files of the PowerPoint slides. Students are required to check Moodle for continuous updates, notifications, plans, and expectations <u>without receiving further notifications from the professor via email</u>, for example. Any information posted on Moodle is the responsibility and obligation of the students to check, understand, and follow. Important material from the textbook and external sources will be covered during our regularly scheduled class meetings. Regular attendance is critical and students should take careful notes and participate in the discussions. Bring your notebook, textbook, and other required materials to every class meeting. As the nature of the material requires hands-on practical sessions, and since there are no practical sessions set in the schedule, different practical sessions will be conducted during the scheduled hours for the class. This might span over more than one meeting.

5	**Textbook(s) and other required material** Title: Learning PHP, MySQL & JavaScript Authors: Robin Nixon Edition: 6th Publisher: Pearson ISBN-10: 978-1-492-09382-4 Title: PHP Web Services: APIs for the Modern Web Edition: 2nd Author(s): Lorna J. Mitchell, Publisher: O'Relly Media, ISBN: 978-1-491-93303-1 ,

6	**Topics Covered** - PHP programming - Web programming - HTTP Servers - HTTP Methods - HTTP Cookies and Sessions - Restful Architecture - PHP and MySQL

7	**Program Learning outcomes**: After completing the IT program, students will be able to: IT Core 1 – Classify a problem and define computing requirements appropriate to its solution. [Knowledge],[Comprehension] IT Core 2 – Apply knowledge of current techniques, skills, and tools necessary to support best computing practices within the Information Technology field. [Application] IT Core 3 – Define and articulate the ethical, legal, security, and social issues and responsibilities in the context of Information Technology. [Knowledge],[Application] IT Core 4 – Identify and recognize user needs in the selection, creation, evaluation and administration of computer-based systems. [Knowledge], [Analysis] IT Adv 1 – Appreciate the local and global impact of computing on individuals, organizations, and society. [Affective Domain] IT Adv 2 – Recognition and appreciation for the need to engage in continuing professional development. [Analysis][Affective Domain] IT Adv 3 – Collaborate effectively on teams to complete a common goal. [Synthesis] IT Adv 4 – Communicate effectively, using verbal and/or written mediums, with a range of audiences. [Synthesis] After completing the SE program,

SE PLO 1: Students will be able to apply appropriate foundational-level theories, models, and techniques to identify problems, analyze requirements, design solutions, and develop software systems.

SE PLO 2: Students will be able to design appropriate solutions for various application domains by employing software engineering methodologies that seamlessly incorporate ethical, legal, and economic considerations.

SE PLO 3: Students will develop project management competency and apply it to manage complex tasks resourcefully and work effectively individually and, in a team, to deliver quality software artifacts.

SE PLO 4: Students will be able to design, coordinate and work under software quality assurance plans with the aim to achieve predetermined software standards and qualities such as dependability, integrability, reusability, modifiability, and testability.

SE PLO 5: Students will be able to apply the current techniques, skills, and tools that are necessary to support best computing practices within the IT Industry.

SE PLO 6: Students will be able to identify and recognize user needs throughout the process of selecting, creating, evaluating, and administering computer-based systems.

SE PLO 7: Students will be able to demonstrate an understanding of the importance of negotiation, effective work habits, leadership, and good communication with stakeholders in a typical software development environment.

Course Learning outcomes		
After completing this course, the student will be able to:	**PLOs**	**Emphasis: H/ M/ L**
CLO 1: Understand server-side programming and its role in developing dynamic Web applications.	**IT Core 1, IT Core 2, SE PLO5**	
	Assessment Venue(s) *Quiz/Midterm1/Assignment 1/Final Exam*	
CLO 2: Read, analyze, write, and test Web applications written on top of a server-side programming language.	**IT Core2, IT Core3, SE PLO2, SE PLO4, SE PLO5**	
	Assessment Venue(s) *Quiz/Midterm/Assignment/ Labs/Final Exam*	
CLO3 Develop Web applications that involve user data processing through Web forms and integration of the data to static parts of Web pages.	**IT Core 3, IT Core2, IT Core4, SE PLO5**	
	Assessment Venue(s) *Quiz/Midterm2/Labs/Assign ment//Final Exam*	
CLO4 Updating web page contents asynchronously	**IT Core 4, IT Core 2, SE PLO2, SE PLO5**	
	Assessment Venue(s) *Labs/ Assignment/Midterm/Quiz*	
CLO5 Develop RESTful web services to create JSON APIs that can be embedded in rich Internet applications.	**IT Core 1, IT Core 4, IT Core 2, SE PLO2, SE PLO5**	

(8)

Graded Work

The purpose of the below assessments is to provide you, the learner, with feedback regarding your level of knowledge, skills and competencies related to the above Course Learning Outcomes. Your performance on these items is also used to determine your overall final grade for the course.

Assessment Component	Course Learning Outcome(s)	Weight	Due Date
Assignments	CLO2 – CLO5	2 @ 10 Marks	Check the lecturing plan
Quizzes and Labs	CLO1 - CLO5	4 @ 5 Marks	To be announced per Topic
Midterm 1	CLO1 – CLO2	1 @ 15 Marks	Check the lecturing plan table
Midterm 2	CLO1 – CLO5	1 @ 20 Marks	Check the lecturing plan table
Final Exam	CLO1 – CLO5	1 @ 25 Marks	Will be announced by the University
Total		**100 %**	

Description of major assessments:

Quizzes: Scheduled and/or unscheduled, in-class quizzes will be given to help ensure students stay up with reading assignments and come to class on a regular basis. **There will be no make-up quizzes.** These tests will be assessed and graded. They will form part of the overall assessment.

Labs: Small take-home exercises will be assigned on a regular basis. Additional homework may be assigned based on the content of the class lecture. All lab exercises must be submitted within 48 hours.

Assignments: The assignments are expected to be done in groups of two. The assignments are designed with the aim to teach students how to develop and deploy web systems. More details on each assignment will be given to students later in the course.

Exams: Written exams and a comprehensive written final are given. The exams are designed to test students' comprehension of material in the reading assignments, as well as any additional material discussed in class. **There will be no make-up exams except under rare circumstances.**
Decisions regarding make-up exams will be judged on a case-by-case basis.

Grading Scale

A	(4.0)	93 - 100	Superior
A-	(3.7)	90 - 92	
B+	(3.3)	87 - 89	Good
B	(3.0)	83 - 86	
B-	(2.7)	80 - 82	
C+	(2.3)	77 – 79	Satisfactory
C	(2.0)	73 - 76	
C-	(1.7)	70 – 72	
D+	(1.3)	67 – 69	Unsatisfactory
D	(1.0)	60 – 66	
F	(0)	Below 60	Fail

Technology Requirements:

Software:

Apache HTTP Server with the PHP module
MySQL – Latest version

OR

WAMP, or XAMPP| MAMP | LAMP
Windows | Mac | Linux, Apache, MySQL, and PHP

Technical Support:
-   All the materials, including some extra materials, videos relating to the subjects (if required) will be post on Moodle.

Moodle Helpful Links:
-   Moodle User Guide: https://docs.moodle.org/310/en/User_quick_guide
-   Moodle Tutorials: https://docs.moodle.org/20/en/Student_tutorials

Zoom Helpful Links:
-   Zoom User Guide: https://support.zoom.us/hc/en-us/articles/360034967471-Getting-started-guide-for-new-users
Zoom tutorials: https://support.zoom.us/hc/en-us/articles/206618765-Zoom-video-tutorials

Course Policies and Expectations

While You Are in the Class
All students are responsible for following the requirements in the student handbook, including but not limited to the following expectations. Students should be alert and willing to participate in class activities and discussions and refrain from having disruptive conversations during class. Students must bring to the class: a copy of the textbook or its soft copy in laptop or tablet, a notebook for writing course notes, a calculator if the course requires it, all the relevant notes and handouts for the course, the needed stationery, and a copy of the syllabus.

Students are asked to limit the use of their laptop computers or tablets to class purposes. Students who violate this rule may not be allowed to use their personal laptop computers and tablets during the class lecture. Students should limit the usage of their smart/cell phones during the class lecture, whereas their usage is prohibited in quizzes, tests, exams and evaluations.

Classroom Conduct
Students are advised to conduct themselves in a collegial manner at all times when in class. Rude, disrespectful, aggressive, or threatening language or behavior will not be tolerated, and students displaying this rule will be asked to leave the class. Students should avoid distracting behavior; otherwise they may be asked to leave the class and marked absent for the day. Examples of distracting behavior include:
-   Side conversations while others are speaking.
-   Any other behavior that a student is warned against during class.

Grade Disputes
Unless grades are added up incorrectly, the grades will not change after quizzes/exams are handed back to the students. Any grade related issue might be discussed in detail during office hours, and not in class time. If there is a dispute concerning the final grade for the course, students have the right to a grievance during the semester or a Grade Appeal at the end of the semester. Details on this process are shared by the Dean of Students or the VPAA Office at the beginning of each semester.

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Incomplete Grades
In the unlikely event that it becomes necessary to assign an "I", for incomplete, as the final grade in the course, the affected student(s) and professor will adhere to the incomplete grade policy on as described in the Academic Catalog (p):
https://www.google.com/url?q=https://auis.edu.krd/student-services&sa=D&source=editors&ust=1620068715279000&usg=AOvVaw3VyhT3mgp5foy5Eu_XoIJC

Revisions to the Syllabus
This syllabus is subject to change. It is the duty of the instructor to inform students of changes in a timely fashion. Students are obliged to be cognizant of any changes.

Expectations of Student Time

Courses of three credit-hours: AUIS adheres to the United States federal definition of a credit hour, as established by the US Department of Education. As a three credit-hour course, you are expected to attend three hours of direct instruction per week, and spend a minimum of six hours out of class per week in homework, studying, preparing, and otherwise engaging with the material of this course.

	Course Examinations/Assignments Policies
11	If there are assessments occurring on a day a student is absent, it is the student's responsibility based on the course expectations to follow up with the course instructor as soon as they are able to do so. The instructor will determine if a make-up is possible. If students are aware they will miss a class and are able to email, they should tell the instructor as soon as possible.

Diversity Statement
Diversity, equity, and inclusion are important to AUIS, and we are committed to providing a safe and inclusive environment for all students. The different backgrounds, traits, values, and viewpoints that students bring to our university are a source of strength and enrich the experience for everyone. We engage with each other respectfully when we disagree, and we strive to increase our capacity for understanding others. Disruptive, insulting, or disrespectful language or behavior will not be tolerated. Together, we can create a positive learning environment for all members of AUIS.

12	**Academic Support** The students are encouraged to make use of an instructor's office hours. The Department will provide additional support for students such as tutorials and help sessions.
	Disability Accommodations Students with disabilities may request reasonable accommodations through the AUIS Student Services.

	Attendance Policy
13	**Sec. I – Attendance** Academic success requires class attendance and engagement. As such, all undergraduate students have a minimum number of allowable absences before they incur a 5% penalty in the course. Faculty will notify the student, the Registration Office, the University Registrar and the Dean of Students of this penalty and the possibility of failing in further absences are incurred. If the student misses two more classes after being notified (one more for classes meeting once a week), the student will fail the class. The following limits apply during Fall and Spring semesters:

- Classes meeting once a week - 5% after 1 absence, fail after 2 with prior notification.
- Classes meeting twice a week - 5% after 4 absences, fail after 6 with prior notification.
- Classes meeting three times a week - 5% after 6 classes, fail after 8 with prior notification.
- Classes meeting four times a week - 5% after 8 classes, fail after 10 with prior notification.

For Summer and Winter term classes meeting the typical four times a week, the student will be penalized after missing:

Summer - 5% after 3 absences, fail after 5 with prior notification.
Winter - 5% after 2 absences, fail after 3 with prior notification.

These penalties must be stated on the syllabus in the first week of classes.

Students must keep track of their own absences, though instructors must notify students about the possibility of failing when informing them of their initial penalty. A student cannot fail the class if they were never notified of this possibility in writing.

Sec. II – Assessments
If there are assessments occurring on a day a student is absent, it is the student's responsibility based on the course expectations to follow up with the instructor as soon as they are able to do so. The instructor will determine if a make-up is possible. If students are aware they will miss a class and are able to email, they should tell the instructor as soon as possible. It is the responsibility of the student to be aware of when major assessments are scheduled according to the syllabus. To do so, please see the following:

- Emergencies are defined as something unexpected and unavoidable. Illness and injury, accidents, bereavements, legal concerns, etc. are all examples of emergencies; in any of those cases, a legal /medical report from a public authorities place should be submitted within two weeks.
- Items that are repeated regularly, have an option to have the lowest grade dropped, or are marked based on completion as opposed to learning (formative minor assessments) like homework, in-class check-ins, minor quizzes (anything that by itself is worth less than 10% of the overall grade) are not eligible for emergency make-up requests.
- Upon safe return to the classroom, the student must do these steps:
  1. Schedule a meeting with the faculty member to discuss what was missed, what they need to do to catch up, and what the requirements will be moving forward

Sec. III – Faculty
All faculty members must actually take and record attendance. Attendance records could be requested by Chairs, the Registrar, the Dean of Students, or the VPAA's office for documentation purposes and need to be up-to-date each week.
  (1) After students use their permitted absences, faculty can apply a penalty (failing the class, grade penalty, additional assignments, etc.).
  (2) Faculty need to notify students when they have reached approximately 90% of their absences. The Registration Office, the University Registrar, and the Dean of Students should be copied on this email for record-keeping purposes.
  (3) Faculty need to have clearly set and communicated policies for their attendance. This should be written on the syllabus, included on the course dashboard in Moodle, and verbally explained with the data displayed during Week One of classes. This multi-modal delivery approach ensures that students have access to the information and that faculty have recourse when students claim ignorance.
  (4) "Attendance" should not be a solo category on the syllabus. This frequently leads to students receiving double grade penalties (i.e., a zero on a quiz and a loss in attendance points) that force sick students to come to class, possibly infecting their classmates and the faculty. "Class Engagement", "In-Class Work", "Class Check-Ins," etc. are all options if a faculty member needs to fill in an Attendance-based grade category. Faculty are welcome to eliminate

	this completely without a replacement and adjust their percentages on other assessments accordingly. (5) Faculty are strongly encouraged to provide some mode of class record for students on Moodle. This can be a recording of the class itself, a flipped-classroom style recorded lecture, or a materials walk-through. These can be determined by the teaching style and course requirements. External videos (YouTube, Udemy, Khan Academy, etc.) can be great teaching resources, but are an insufficient substitute for faculty-recorded materials because they are not customized to the experience of the AUIS classroom.

Emergency Evacuation

14 In case of an emergency or a fire alarm during a class, all students must follow the directions of the class/laboratory instructor and evacuate the room in an orderly manner to the assembly area. Failure to do so is a violation of AUIS Health and Safety Policy on emergency evacuation and will be subject to disciplinary action.

Academic Integrity Policy

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Academic Integrity is honest behavior in a school setting. Academic integrity is more than the absence of cheating. It is necessary for students to truly learn new skills and develop as human beings. By struggling with her own studies and by making honest mistakes and discoveries, a student learns about the world and herself. Using another's work inappropriately prevents this intellectual and emotional growth.

Academic Dishonesty ("cheating") is any form of deceit, fraud, or misrepresentation in academic work. Academic dishonesty is the opposite of learning, because it prevents the student-writer from genuinely learning and responding to material. Plagiarism is one of the most serious forms of academic dishonesty.

Plagiarism is using other people's ideas and/or words without clearly acknowledging the source of the information. If a student uses content or grammatical structures from the internet, a professional writer, or another student and does not inform the reader, he plagiarizes. A student who allows another student to use his writing without attribution is also guilty of plagiarism.

Cheating will not be tolerated in this class. All major written assignments completed outside of class time must be submitted via www.turnitin.com. A student found to be cheating for the first time will receive a zero for the assignment and the Dean of Students will be notified. In the event of a second offense confirmed by the Dean of Students, the student will fail the course. A third instance of cheating will result in that student being dismissed from the American University of Iraq, Sulaimani. Students are directed to the AUIS Student Honor Code and the Academic Integrity policy section of the Academic Catalog (available online at www.auis.edu.krd). These documents provide guidance in cases of academic dishonesty, so we should all be familiar with them.

At the end of each assignment the following statement should be added and signed:
  "I pledge that I have neither given nor received any unauthorized assistance on this academic assignment, exercise, or examination."

Signed: _____ *ID:* _____
Section: _____   *Date:* _____

It is critical for students to remember that there are no "compassionate decisions" or "clemency" in the AUIS Academic Integrity System. Poor health, personal and/or family emergencies, or the difficulty of an assessment are not acceptable excuses for Academic Misconduct. Instructors and the Dean of Students will not accept such explanations from students as a defense.

Students facing family or personal emergencies and/or emotional or mental distress should

contact their course instructor, the Director of Academic Success, and the Dean of Students before an assessment deadline or exam.

For additional information on how to prepare assessments that follow the Rules on Academic Integrity at AUIS, students must review this video presentation from March 2021: https://www.youtube.com/watch?v=6J3X4kulSq8

In line with the above, the Office of the Dean of Students (ODOS) at AUIS has instituted the following rules.

(I) Academic Misconduct Severity Levels

(1) *Premeditated Academic Misconduct* will result in an automatic "F" in the course. Examples include—but are not limited to—the comprehensive copying of sources or the recruitment of others for the completion of assignments (including copying another student's homework).

All faculty **must** forward such cases to the Dean of Students if they suspect this type of misconduct. The determination is made by the Dean of Students and may be appealed to the VPAA, whose decision is final.

(2) *Grossly Negligent Academic Misconduct* will result in a penalty of the instructor's choosing (including and up to an "F" on the assignment). Examples include—but are not limited to— having prohibited materials or tools on oneself during an examination **even if their use** cannot be proven (*prohibited materials and tools must be announced by the instructor*), or a systematic use of a source without attribution, or a systematic failure to adequately paraphrase sources.

Students are fully responsible for their work in this course under the "AUIS Student Honor Code" and "Rules Governing Academic Integrity."

ITE404 – Web Application Programming

Assigned readings are to be read before class. The material will be discussed in class. Quizzes, Tests and Exams may cover material from the readings that was not presented in class.

Week	Dates	Topics	Assessments / Assignments
1	16/9/2024	Introduction [CLO1]	
2	23/9/2024	PHP Syntax – Part1 [CLO1] [CLO2] [CLO3]	**Wednesday, September 25, Quiz1**
3	30/9/2024	PHP Syntax – Part2 [CLO1] [CLO2] [CLO3]	
4	07/10/2024	HTTP Verbs [CLO2] [CLO3]	**Wednesday, September 9, Lab1 - handout**
5	14/10/2024	PHP and MySQL – Part1 [CLO4]	**Wednesday, October 16 Midterm1**
6	21/10/2024	PHP and MySQL – Part2 [CLO4]	**Wednesday, October 23 Assignment 1 - handout**
7	28/10/2024	HTTP Cookies and Sessions [CLO2] [CLO3]	**Wednesday, October 30, Quiz2**
8	04/11/2024	Javascript – Part1 [CLO3]	
9	11/11/2024	Javascript – Part2 [CLO3]	**Wednesday, November 13 Assignment 2 - handout**
10	18/11/2024	RESTful API [CLO5][CLO6]	**Wednesday, November 20, Lab2 - handout**
11	25/11/2024	AJAX and JSON – Part1 [CLO1] [CLO5]	**Wednesday, November 27 Midterm2**
12	2/12/2024	AJAX and JSON – Part2 [CLO1][CLO5]	
13	9/12/2024	COURSE WRAP-UP AND CLOSURE	**Reading period (Dec.11-Dec.12)**
14	14/12/2024	Final Exams	