



**Course Title: Computer Architecture and Design**  
**Course #: EE 430**

**Credit Hours: 3**  
**Semester: Spring - 2021**  
**Cap:15**

**Faculty:** Dr. Kamel Alboaouh  
**Office:** EE-325

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**Office Phone:** N/A

**Office Hours** (face-to-face or online): face-to-face

**Preferred Communication** (email and/or text; will respond within 24 hours): email

**Modality** (face-to-face, hybrid, or online): face-to-face

**Class Location and Meeting Times** (if face-to-face): TBA

**Meeting Hours and Online Hours** (if hybrid): TBA

**Required Materials:**

**Textbooks:** class notes

**Tools:**

**Lab Fee (if applicable):**

**Mission, Vision, and Philosophy**

*Mission:* Navajo Technical University honors Diné culture and language, while educating for the future.

*Vision:* Navajo Technical University provides an excellent educational experience in a supportive, culturally diverse environment, enabling all community members to grow intellectually, culturally, and economically.

*Philosophy:* Through the teachings of Nitsáhákees (thinking), Nahátá (planning), Íina (implementing), and Siihasin (reflection), students acquire quality education in diverse fields, while preserving cultural values and gaining economic opportunities.

**Course Description**

The students will be exposed to a lab-based projects. They shall design a PI controller for a motor controlling a fan.

<b>Course Outcomes</b>	<b>Course Assessments</b>
1a Chooses a mathematical model of a system or process appropriate for required accuracy	The students are going to model computer processing time (homework) accuracy, in the light of what has been taught in the class.
1b Applies engineering, scientific and mathematical principles to achieve analytical or numerical solution to model equations	Students shall apply the sequential logic of a computer in a real life example.
1c Solution procedure, problem set up and methods are defined with diagram as appropriate	Students shall identify the number of interrupts needed in order to design a clock.

### Connections to Program Assessment (Course-Embedded Measures)

1a Chooses a mathematical model of a system or process appropriate for required accuracy
1b Applies engineering, scientific and mathematical principles to achieve analytical or numerical solution to model equations
1c Solution procedure, problem set up and methods are defined with diagram as appropriate

### Course Activities

Week	Date	Class Topics/Reading Due	Assignments Due	Assessments
1		Introduction		
		<b>Last day to add/drop</b>		
2		Meeting and discussion	30/Jan.	TBA
3		Meeting and discussion	6/Feb.	TBA
4		Meeting and discussion	13/Feb	TBA
5		10 % progress report	20/Feb	TBA
		<b>Graduation Petition due</b>		
			<b>Midterm</b>	
		<b>Midterm grades due</b>		
6		Meeting and discussion	27/Feb	TBA
7		Meeting and discussion	6/Mar.	TBA
		<b>Last day to withdraw with "W"</b>		
8		50 % progress report	13/Mar.	TBA
9		Meeting and discussion	27/Mar.	TBA
10		Meeting and discussion	3/Apr.	TBA
11		Performance presentation	10/Apr.	TBA
12		Group collaboration	17/Apr.	TBA
13		100% progress report - draft	24/Apr.	TBA
14		Final presentation	1/May	TBA
15		Review		
16		<b>Project Presentation</b>		
17			<b>Finals</b>	
		<b>Grades due to the Registrar</b>		
		<b>Graduation</b>		

### Grading Plan

Homework: 10%

Class Participation: 2%

Project(s): n/a

Quizzes: 8%

Mid-term:30%

Final Exam: 50%

Portfolio: n/a

A = 100-90%  
B = 89-80%  
C = 79-70%  
D = 69-60%  
F = 59% or less

### **Grading Policy**

Students must do their own work. Cheating and plagiarism are strictly forbidden. Cheating includes (but is not limited to) plagiarism, submission of work that is not one's own, submission or use of falsified data, unauthorized access to exams or assignments, use of unauthorized material during an exam, or supplying or communicating unauthorized information for assignments or exams.

### **Participation**

Students are expected to attend and participate in all class activities. Points will be given to students who actively participate in class activities including guest speakers, field trips, laboratories, and all other classroom events.

### **Cell phone and headphone use**

Please turn cell phones off **before** coming to class. Cell phone courtesy is essential to quality classroom learning. Headphones must be removed before coming to class.

### **Attendance Policy**

Students are expected to attend all class sessions. A percentage of the student's grade will be based on class attendance and participation. Absence from class, regardless of the reason, does not relieve the student of responsibility to complete all course work by required deadlines. Furthermore, it is the student's responsibility to obtain notes, handouts, and any other information covered when absent from class and to arrange to make up any in-class assignments or tests if permitted by the instructor. Incomplete or missing assignments will necessarily affect the student's grades. Instructors will report excessive and/or unexplained absences to the Counseling Department for investigation and potential intervention. **Instructors may drop students from the class after three (3) absences unless prior arrangements are made with the instructor to make up work and the instructor deems any excuse acceptable.**

### **Study Time Outside of Class for Face-to-Face Courses**

**For every credit hour in class, a student is expected to spend two hours outside of class studying course materials.**

### **Study Time for Hybrid or Blended Courses**

**For a hybrid or blended course of one credit hour, a student is expected to spend three hours per week studying course materials.**

### **Study Time for Online Courses**

**For an online course of one credit hour, a student is expected to spend four hours per week studying course materials.**

### **Academic Integrity**

Integrity (honesty) is expected of every student in all academic work. The guiding principle of academic integrity is that a student's submitted work must be the student's own. Students who engage in academic dishonesty diminish their education and bring discredit to the University community. Avoid situations likely to compromise academic integrity such as: cheating, facilitating academic dishonesty, and

plagiarism; modifying academic work to obtain additional credit in the same class unless approved in advance by the instructor, failure to observe rules of academic integrity established by the instructor. **The use of another person's ideas or work claimed as your own without acknowledging the original source is known as plagiarism and is prohibited.**

### **Diné Philosophy of Education**

The Diné Philosophy of Education (DPE) is incorporated into every class for students to become aware of and to understand the significance of the four Diné philosophical elements, including its affiliation with the four directions, four sacred mountains, the four set of thought processes and so forth: Nitsáhákees, Nahát'á, Íina and Siih Hasin which are essential and relevant to self-identity, respect and wisdom to achieve career goals successfully.

At NTU's Zuni Campus, the A:shiwí Philosophy of Education offers essential elements for helping students develop Indigenous and Western understandings. Yam de bena: dap haydoshna: akkya hon detsemak a:wannikwa da: hon de:tsemak a:ts'umme. *Our language and ceremonies allow our people to maintain strength and knowledge.* A:shiwí core values of hon i:yyułashik'yanna:wa (respect), hon delank'oha:willa:wa (kindness and empathy), hon i:yyayumola:wa (honesty and trustworthiness), and hon kohoł lewuna:wediyahnan, wan hon kela i:tsemanna (think critically) are central to attaining strength and knowledge. They help learners develop positive self-identity, respect, kindness, and critical thinking skills to achieve life goals successfully.

### **Students with Disabilities**

Navajo Technical University is committed to serving all students in a non-discriminatory and accommodating manner. Any student who feels that she or he may need special accommodations should contact the Accommodations Office (<http://www.navajotech.edu/student-services#accomodations-services>) in accordance with the university's Disability Accommodations Policy (see [http://www.navajotech.edu/images/about/policiesDocs/Disability\\_Exhibit-A\\_6-26-2018.pdf](http://www.navajotech.edu/images/about/policiesDocs/Disability_Exhibit-A_6-26-2018.pdf)).

### **Email Address**

Students are required to use NTU's email address for all communications with faculty and staff.

**Final Exam Date: 5<sup>th</sup>/Jan./2021**