JacksTeach Functions and Modeling  
Class Syllabus / Policy  
JTCH 3351  
Fall 2023

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Office Hours:  
Monday, Wednesday, and Friday: 9:00 – 9:50am  
Tuesday and Thursday: 2:00 – 3:15pm

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Department: Mathematics & Statistics  
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Phone: 936-468-1834  
Office Hours:  
Monday: 12:00 – 1:00 pm  
Wednesday: 12:00 – 1:00 and 3:45 – 5:00pm  
Thursday: 1:45 – 3:30 pm

Class meeting time and place  
TR 12:30:1:45pm, Bush Mathematics Bldg. Room 123

Prerequisite:  
JTCH 1102; and Math 2413 or concurrent enrollment; or permission of JacksTeach director or co-director

Course Description  
Functions and Modeling is designed to provide an in-depth study of topics in secondary school mathematics. Emphasis in modeling with linear, exponential, and trigonometric functions; curve fitting; discrete and continuous models; inquiry-based and project-based teaching modalities. Use of appropriate technology is also explored.  
Credit hours: 3

SFASU Policy 5.4: The federal definition of a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:  
1. Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or 10 to 12 weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or  
2. At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

To this end, all students who wish to be successful should plan to spend at least two hours outside of class for every credit hour associated with this course. Expected activities to be completed in the time outside of class include reviewing notes from previous class meetings, reading assigned course resources, completing all assigned exercises and projects, and performing periodic assessment preparation.

Program Learning Outcomes  
The successful JacksTeach candidate will:  
1. Demonstrate a deep understanding of and ability to apply STEM content and foundational pedagogical content knowledge through effective teaching in K-12 classrooms; (Texas Teacher Standards 1, 2, 3, 4; Texas PPR Standards I, IV; Texas Science Standards I-IV, VI, XI)  
2. Develop an effective classroom management plan that creates a STEM classroom environment conducive to active learning and inquiry techniques, and supportive of individual and collaborative learning; (Texas Teacher Standards 1, 2, 4; Texas PPR Standards II, III; Texas Science Standards I-V, VII)  
3. Use a variety of instructional strategies to meet the needs of all students and inspire STEM learners to develop curiosity about local and global issues and the connections to STEM, through the application of critical thinking,
creativity, problem solving, and technology; (Texas Teacher Standards 1,2, 4; Texas PPR Standards II, III; Texas Science Standards I-IV, VI-VII, XI)

4. Implement a variety of assessment techniques to monitor learner progress and guide adaptation of instructional plans; and (Texas Teacher Standards 3, 5; Texas PPR Standards I, III, IV; Texas Science Standards IV-V)

5. Exhibit a disposition toward continued learning and professional growth through the utilization of self-evaluation and research-based practices. (Texas Teacher Standards 5, 6; Texas PPR Standards I, IV; Texas Science Standards I-IV)

**Student Learning Outcomes**

After completing the required readings and participating in class activities, the prospective mathematics or science educator will be able to do the following:

1. Deepen and broaden function-related mathematical content knowledge from Algebra through Calculus by exploring relevant topics in an inquiry based learning situation. (PLO 1, 5)
2. Make connections between college mathematics and secondary school mathematics. (PLO 1, 5)
3. Build preliminary knowledge of professional and state mathematics curriculum standards. (PLO 1, 5)
4. Use reflective and collaborative learning, and develop a stronger sense of professionalism and leadership. (PLO 1, 5)
5. Create efficient seekers of content knowledge. (PLO 1, 3, 5)
6. Explore and learn appropriate use of technology in the mathematics classroom. (PLO 1, 3, 5)

*A complete listing of all educator preparation standards this course meets and a list of the key assessments used for program accreditation purposes can be found at [https://www.sfasu.edu/jacksteach](https://www.sfasu.edu/jacksteach)*

**Text and Materials**

Your instructors will provide the required textbook in PDF form.

**Class Attendance and Participation Policy**

Since a majority of this work hinges on group work done during the class time, attendance and presentation of results of class explorations is of utmost importance. Therefore, attendance is extremely important and you are expected be in class each and every day.

**Attendance**

- Please keep in communication with the instructors about all absences. If you cannot attend class at the scheduled time, you must contact the instructors as soon as possible
- If you must miss a scheduled appointment with the instructors, please let them know as soon as possible
- Missing an exam or presentation is much more problematic than missing a regular class meeting or an appointment, and you should not miss exam or presentation days unless the situation is very serious. If you miss an exam or presentation and do not communicate with the instructors as soon as possible, you risk failing the course.
- Come to class prepared and ready to listen, participate, and engage with the activities for the day
- The university’s attendance policy can be found at [https://www.sfasu.edu/policies/class-attendance-6.7.pdf](https://www.sfasu.edu/policies/class-attendance-6.7.pdf)

**Grading**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Tests</td>
<td>40 %</td>
</tr>
<tr>
<td>Written Assignments/Labs/Homework</td>
<td>25 %</td>
</tr>
<tr>
<td>Midterm Project*</td>
<td>15 %</td>
</tr>
<tr>
<td>Final</td>
<td>20 %</td>
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<tr>
<td><strong>Total: 100 %</strong></td>
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*Midterm Project: You will complete an individual project exploring an aspect of mathematics. Further details will be provided by the instructors.*
Final Grades will be determined by the standard university A, B, C, D, F grading system.

**Late Work**
Please communicate with the instructors if you are unable to turn in assignments by the specified due date.

**Major Topics**
- Functions and Relations
- Qualitative Graphing
- Sequences/Patterns – Function Patterns
- Mathematical Modeling - Data, & Regression
- Matrices
- Polar & Parametric Relations
- Complex Numbers and Properties
- Exponential Growth and Decay Models

**Tests/Labs/Homework**
There will be frequent homework assignments, labs, and exams to test your knowledge of the concepts we are currently discussing in class.
Tests and labs will be in class; homework needs to be finished outside of class time. **You are expected to enhance classroom discussion with extended research of topics outside of the classroom. YOU ARE RESPONSIBLE FOR KNOWING ALL TECHNOLOGY TECHNIQUES PRESENTED IN CLASS.**

**Dropping or Withdrawing**
Please see the following for more information:
Drops/Withdraws (Dates): [https://www.sfasu.edu/registrar/registration-information/dates-deadlines](https://www.sfasu.edu/registrar/registration-information/dates-deadlines)
Drops/Withdraws (Procedures): [https://www.sfasu.edu/registrar/registration-information/how-to-drop-withdraw](https://www.sfasu.edu/registrar/registration-information/how-to-drop-withdraw)

**Academic Integrity (4.1)**
The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.
Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

**Withheld Grades Semester Grades Policy (5.5)**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the coursework because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course to compute the grade point average. For additional information, go to [https://www.sfasu.edu/policies/course-grades-5.5.pdf](https://www.sfasu.edu/policies/course-grades-5.5.pdf).

**Students with Disabilities**

To obtain disability-related accommodations, alternate formats, and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services promptly may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).

**Student Wellness and Well-Being**

SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

**On-campus Resources:**

The Dean of Students Office (Rusk Building, 3rd floor lobby)

[www.sfasu.edu/deanofstudents](http://www.sfasu.edu/deanofstudents)

936.468.7249
dos@sfasu.edu

SFA Human Services Counseling Clinic Human Services, Room 202

[www.sfasu.edu/humanservices/139.asp](http://www.sfasu.edu/humanservices/139.asp)

936.468.1041

The Health and Wellness Hub “The Hub”

Location: corner of E. College and Raguet St.

*Updated: August 2023*
To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education

www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

Crisis Resources:

- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- johCrisis Text Line: Text HELLO to 741-741