This course meets educator preparation standards for one or more certification programs; a complete listing of all the educator preparation standards this course meets can be found at: [https://sfasu.edu/docs/jacksteach/jacksteach-standards-alignment-chart.xlsx](https://sfasu.edu/docs/jacksteach/jacksteach-standards-alignment-chart.xlsx)

Name: Mindy Wurtz, MS Natural Science, Secondary Certifications in Chemistry, Physics, and Life Sciences. she/her/hers

Email: Melinda.Wurtz@sfasu.edu

Phone: 936-468-1328, cell: 936-552-1015

Office: Bush Mathematics Bldg. 103J

Office Hours: Wednesdays 10:00 AM – noon, Thursdays 10:00 AM – 11:00AM & 1:00 PM – 3:00PM

Mondays are by appointment only.

Department: JacksTeach, STEM

Class meeting time and place: Friday, 1-3:30 PM, MATH 123

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.

**Prerequisites:** JTCH 3311 and EPP enrollment; or permission of JacksTeach co-director

**Course Description**

The Project-Based Instruction (PBI) course is based on the premise that project-based instruction engages learners in exploring authentic, important, and meaningful questions of real concern to secondary students. Project-based instruction promotes equitable and diverse participation and engages high school students in learning. They learn fundamental science and mathematical concepts and principles that they can apply to their daily lives.
Whereas in Classroom Interactions, students gain experience designing a sequence of several lessons that they teach to a high school class, in PBI, students design full units of connected lessons—a skill that is required in Apprentice Teaching. Students synthesize a number of the major principles and themes of the JacksTeach program as they develop an intellectually challenging project-based instructional unit. PBI also provides JacksTeach students with the experience of managing lessons and high school students outside a standard classroom in a field setting.

Despite its name, PBI incorporates a variety of instructional approaches, focusing on differentiating between project-based instruction and other inquiry-based methods.

**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. Discuss and critique the merits of project-based instruction in terms of students’ cognitive development, content-specific participatory practices, equity, and motivation. (PLO 1, 2, 3, 4, 5)

2. Reflect on applications of educational theory as it relates to classroom practice in the area of project-based instruction. (PLO 1, 2, 3, 4, 5)

3. Compare, contrast, and evaluate project-based and other instructional approaches, both in general and for particular instructional goals. (PLO 1, 2, 3, 4, 5)

4. Evaluate the usefulness of technology in achieving learning objectives and select appropriate resources for student use based on the relationship of salient features of the technology to learning objectives. (PLO 1, 2, 3, 4, 5)

5. Use inquiry methods with high school STEM students in a problem-based setting. (PLO 1, 2, 3, 4)
6. Be familiar with the history of project-based instruction, as well as with commonly perceived strength and critiques; describe examples of project-based instruction in math or science and analyze those examples in terms of several well-studied, field-tested models for PBI. (PLO 1, 2, 3, 4, 5)

7. Demonstrate skill in setting up and managing wet lab and field project-based environments. (PLO 1, 2, 3, 4, 5)

8. Use PBL (Project Based Learning) design principles to develop an interdisciplinary, two- to four-week project-based unit for secondary STEM courses that explicitly links to district, state, and/or national content and inquiry standards. (PLO 1, 2, 3, 4, 5)

9. Create and evaluate alternative assessments appropriate for project-based instruction. (PLO 1, 2, 3, 4)

10. Discuss lab safety and liability issues related to project-based instruction and wet-lab or field environments (Occupational Safety and Health Administration (OSHA) regulations, how to read materials safety data sheets, safe disposal of chemicals, etc.). (PLO 1, 2, 3, 4, 5)

11. Use relevant technology to develop projects, and integrate technology into curricular units. (PLO 1, 2, 3, 4, 5)

12. Become sensitive to and learn to proactively handle equity and diversity issues in classroom teaching, ensuring that all students have an opportunity to learn through instruction that promotes equitable and diverse participation, and become aware of students’ funds of knowledge as a resource. (PLO 1, 2, 3, 4, 5)

Text and Materials
There is no text assigned for this course. Consequently, readings will be posted electronically, with instructions on access explained in class.

An electronic device (other than a phone) is required for each class meeting unless special arrangements have been made.

Course Requirements

Class Participation
During class we will develop unit plans and discuss classroom practices. Together we will create a unit from scratch and then in groups you will develop a unit to be implemented in the field. Your participation and attendance in class is crucial for your success.

Repeated absences will result in deductions from your grade and may result in you not receiving credit for the course. Credit for attendance requires arriving to each class session on time, participating in all class activities, and staying until the session ends.

Fieldwork
Throughout the semester you will complete three observations and teach two mini units. This experience will begin with a mentor teacher meet and greet on 9/2 at 4:30 in Math 127. Should anyone in your group or your mentor teacher be unable to attend the meet and greet, an individual group meeting must be scheduled before any observations can occur. Observations will include a task that must be completed prior to teaching in the field. Unit plans will be developed groups but will be taught individually to different sections of the same high school math or science class. A total of eight days of teaching in the field is required for this course.

A missed teach/observation in the high school will be taken very seriously as the teachers you work with have generously donated their classrooms for your learning. All missed appointments must be rescheduled. Significant ramifications are possible, and these situations will be handled on a case-by-case basis.
If you have a serious emergency and must miss your scheduled teaching day, notify your Mentor Teacher and instructor as soon as possible. You will be responsible for completing the missed lesson. Failure to complete all field requirements will result in failure of the course regardless of accumulated points.

Do not miss your teaching assignment due to a transportation problem. Call your instructor or the JacksTeach Center (468-3960) or call Mrs. Wurtz at 936-552-1015.

**Final Project**
For the final project, you will develop a 4-week unit for a secondary science or mathematics class. This project will consist of a new unit that could be implemented (in part or whole) during Apprentice Teaching. Parameters and requirements for this project will be described in a separate handout.

**STEM Social Events**
Throughout the semester you will attend at least three STEM specific social events. Documentation of attendance will be required.

**Safety Training**
All students planning to teach in science classrooms must complete safety training before teaching a lesson in the field. Failure to complete this training will have serious ramifications on your grade as it will prevent you from completing your field requirements. Safety assignments will be posted on D2L.

**Professionalism**
Professionalism includes being on time, appropriately dressed, and well prepared for all field experiences.

As representatives of JacksTeach and visiting teachers in local Independent School Districts, you are expected to act professionally when participating in your field experiences for this class.

- Observe all school district rules, policies, and procedures.
- Sign in at the front office of the school each day that you visit. All schools will provide you with a sticker or badge that identifies you as a visitor. Wear it.
- Dress appropriately. Each school district has a dress code for teachers, student teachers, and others in field placements. Follow it. For a complete description of this policy, please see your school district’s online policy regarding dress code.
- Practice every aspect of your lesson before you teach it.
- Plan for how you will transition from each part of the lesson to the next.
- Arrive to your classroom, not the school, at least 20 minutes before your scheduled teaching time. Set-up time is a function of the lesson. You are responsible for starting on time. Signing in at the front office requires additional time.
- Be prepared for the lesson and bring all required materials. Use nametags or name tents so you can call students by their names throughout your lesson. This is an easy and effective classroom management technique!

**Grading Policy**
**Late work will not be accepted unless you have contacted one of the instructors and negotiated a change in the due date. Points will be deducted for accepted late and/or incomplete work.**

Expect an 10% minimum deduction and up to half off for lesson plans submitted late/incomplete. Late/incomplete lesson plans may result in delayed/canceled field experiences that may affect your grade negatively.
Attendance Policy
This course is designed to be discussion heavy with the majority of the discussion lead by students. Thus, your attendance is extremely important, and will be factored into your grade. You are allotted one unexcused absence from class provided you work with your teaching team and the instructors to make up the material missed. If additional unexcused absences or nonparticipation days occur, you will receive a 5% deduction of your final grade for each occurrence.

Missing a field experience can only occur in extreme circumstances. In such cases you must contact your host teacher and instructors as soon as possible to develop a plan to accommodate your absence.

Course Outline

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<tr>
<th>Activities</th>
<th>% of Total</th>
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<tr>
<td>Discussion Leader Assignments</td>
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<tr>
<td>• Wait time</td>
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<tr>
<td>• What is PBI</td>
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<td>• Discourse</td>
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<td>• CATS</td>
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<td>• Classroom management</td>
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<td>• Visible Learning</td>
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<td>• Climate</td>
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<td>• Equity</td>
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<tr>
<td>• Rural Instruction</td>
<td></td>
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<tr>
<td>• Critiques of PBI</td>
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<td>• Other relevant topics TBA</td>
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<tr>
<td>Fieldwork Observations Assignments</td>
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<tr>
<td>PBI Unit Planning</td>
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<tr>
<td>• Central Focus</td>
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<td>• Unit Standards</td>
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<td>• Unpacking</td>
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<td>• Learning Objectives</td>
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<td>• Accommodations</td>
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<td>• 5E</td>
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<tr>
<td>• Reflections</td>
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<tr>
<td>Fieldwork Reflections</td>
<td>15%</td>
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<td>Final Project</td>
<td>20%</td>
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<tr>
<td>Additional Course Assignments including Attendance at 3 STEM Social Events and Science Safety Assignments</td>
<td>10%</td>
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<td></td>
<td>100%</td>
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**Academic Integrity (4.1)**

Academic integrity is the responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways, including instruction on the components of academic honesty and abiding by university policy on penalties for cheating and plagiarism.

**Definition of Academic Dishonesty**

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 in a timely manner may delay your accommodation. For additional information, go to 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)
http://www.sfasu.edu/deanofstudents
936.468.7249
dos@sfasu.edu

SFA Human Services Counseling Clinic Human Services, Room 202
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.
http://www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

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

http://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)
- Crisis Text Line: Text HELLO to 741-741