Knight Foundation School of Computing and Information Sciences

Course Title: Empowering Emerging Tech Talent   **Date:** 6/2/2024

Course Number: CIS 4257

Number of Credits: 3

Subject Area: XX

Catalog Description: Survey of skills for emerging tech talent to make a professional impact quickly. Includes: Introduction to business, technopreneurship, complex projects, team dynamics, and career development.

Textbooks: None

References/Resources:
This course will use pragmatic resources found in professional environments, provided by Career and Talent Development (CTD)

LinkedIN Learning
Clifton Strengths Finder,
Sample Articles:
- HBR: Final Voyage of the Challenger
- NYT: What Google Learned from Its Quest to Build the Perfect Team
- Gartner Survey Reveals Talent Shortages as Biggest Barrier to Emerging Technologies

Prerequisites Courses: Senior standing

Corequisite Courses: Panther Career Ready Microcredential
(https://microcred.fiu.edu/micro-credentials-catalog/index.html#&query=Career)

Type: Elective for Cybersecurity, IT, AI and Data Science Majors in their Senior (4th) year

Prerequisites Topics:
1. None

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Tech Talent Academy
CIS 4257 Empowering Emerging Tech Talent

Course Description

The term "Tech Talent" often conjures the notion of a Software Engineer sitting in a Research and Development department coding away on the next great product. However, the world of Emerging Tech Talent is much more robust. Many of today's students will take roles like IT Systems Administrator, Cybersecurity Analyst, AI Prompt Engineer, or Technical Product/Project Manager. Others will become Technopreneurs or skilled Contract Consultants, hopping from project to project as Solopreneurs. All these roles necessitate broad situational awareness to contextualize and navigate how to apply technical skills successfully.

For example, perhaps an AI Prompt Engineer or Data Scientist will be asked to identify customers who intend to *churn*? Or, perhaps a Techno Entrepreneur will need to *sell the value* created by his/her product to a Venture Capitalist. Or, perhaps the project objectives could be solved using more than one type of technology, and the consultant must make recommendations with pros and cons to the stakeholders (and actually, the best answer may not be the coolest code).

This course is not an "engineering course" per se, but rather a "course for Engineers" to stand out as top talent who are ready to make an impact. This course surveys four major sequences of knowledge and skills:

- Business and Technopreneurship
- Complex Projects
- Working with People and Teams
- Technical Career Development

Emerging Tech Talent is an elective targeted at students in their Senior year exploring their career options. Success will be measured by the number who are employed upon graduation.

As part of a university-wide initiative, the Knight Foundation School of Computing and Information Sciences has partnered with The Tech Talent Academy and FIU Career and Talent Development (CTD) Department to align this course with the Career Milestones Guide (see Appendix) and will be delivered as a complement to the Career Readiness Micro-Credential. This course will specifically utilize key resources, like Clifton Strengths Finder, provided by CTD and ensures students apply these skills gained in this course using experiential learning that can be referenced on resumes or during interviews.

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Course Outcomes:

Arm emerging talent in fields like Cybersecurity, IT, AI, Data Science and Technopreneurship with the ability to contextualize their tech skills in business, project management, and people terms.

1. Identify common challenges with Emerging Technologies and Talent (to overcome them!) [Remembering]
2. Apply business literacy in professional situations. [Applying]
3. Exemplify the ability to communicate the merit of ideas (value) i.e. to leadership or sources for entrepreneurial using the funding. [Understanding]
4. Explain technical concepts to non-technical counterparts in ways they understand. [Understanding]
5. Assess critical success factors for complex projects. [Evaluating]
6. Create the most appropriate tool / tech / project methodology to produce the desired outcome. [Creating]
7. Demonstrate constructive interaction in dynamic team environments. [Applying]
8. Distinguish abilities of those in the work-world who are different from yourself to better relate. [Analyzing]
9. Develop a mechanism for self-accountability. [Creating]
10. Demonstrate a professional mindset of one who is career ready. [Applying]

Association between Student Outcomes and Course Outcomes

BS in Computing: Student Outcomes	Course Outcomes
1) Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	3, 5, 6
2) Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.	5, 6
3) Communicate effectively in a variety of professional contexts.	1, 2, 3, 4
4) Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.	2, 5, 6, 10
5) Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.	1, 7, 8, 9

Program Specific Student Outcomes

6) Apply theory, techniques, and tools throughout the data science lifecycle and employ the resulting knowledge to satisfy stakeholders' needs. [DS]	3, 5, 6, 10

6) Apply security principles and practices to maintain operations in the presence of risks and threats. [CY]	2, 3, 4, 6, 7

6) Use systemic approaches to select, develop, apply, integrate, and administer secure computing technologies to accomplish user goals. [IT]	2, 3, 4, 6, 7

Assessment Plan for the Course and how Data in the Course are used to assess Student Outcomes

Student and Instructor Course Outcome Surveys are administered at the conclusion of each offering, and are evaluated as described in the School's Assessment Plan:
https://abet.cis.fiu.edu/

Outline

Topic	No. of Lecture Hours	Course Outcomes
Introduction to Business and Technopreneurship		

o Course Overview
  o Identify Common Challenges with Emerging Talent
  o Goals and Types of Businesses, Functional Overview
     ▪ Marketing / Sales
     ▪ Accounting
     ▪ Finance
     ▪ Operations
     ▪ HR / Legal
  o The Flow of Money -
  o Sales to Cash
  o EBITDA / Profitability
  o Types of Business Models (e.g. 1x fee vs. Recurring Revenue
  o Valuation
	6	1, 2, 3

o Technopreneurship
     ▪ Idea, Opportunity, Customer Validation
     ▪ Minimum Viable Product
     ▪ Elements of a Business Strategy & Plan
     ▪ Funding and Growth
	3	2, 3, 4

o Communication with non-Techs
     ▪ Situational Agility
     ▪ Unique Value / Benefits over Features / Problem-Solution
     ▪ Using Money: ROI / Cost-benefit / TCO
     ▪ Using Stories (Use Cases)
     ▪ Using Visualization / Data
	3	1, 4

Introduction to Complex Projects / Launching Products in the Real World		

o Inventive Problem Solving
     ▪ Perfect vs. Imperfect Information
     ▪ Risk vs. Reward (e.g. Choosing the appropriate tech approach)
     ▪ Time vs. Cost vs. Resources
	3	1, 5

o Fundamentals of Project Management
     ▪ Traditional Waterfall (PMP)
     ▪ Scope / Charter / Critical Roles
     ▪ Planning / Kickoff
     ▪ Gantt
     ▪ Critical Path / Effective Meetings
     ▪ Go/No Go
     ▪ Post-Review
  o Agile Overview
  o Understanding Product Life Cycles
     ▪ MVP / Launch
     ▪ Adoption
	6	5, 6

▪ Roadmap (features vs. tech debt) ▪ User Feedback		
o Forecasting Work Accurately 　▪ Roadmaps 　▪ Capacity 　▪ Task / Sub-task 　▪ Buffers 　▪ Confidence Estimations	3	1, 5, 6
Introduction to Team Dynamics		
o Working in Teams 　▪ Goals and Agendas 　▪ Teamwork: Coordination / Cooperation / Collaboration 　▪ Trust and Psychological Safety 　▪ Rewards and Handling Stress & Grievances o The role of Personality 　▪ (e.g. Myers-Briggs or Disc) 　▪ Using Your Strengths (Clifton Strengths)	3	1, 7, 8
o Self-accountability 　▪ Mindset and Motivation 　▪ Goals and Self-organization system 　▪ Working 360 (Employees / Peers / Leaders) 　▪ Self-awareness / Coachability / Performance Reviews 　▪ Handling both Failure and Success	3	1, 7, 9
Technical Career Development for Emerging Talent		
o Technical Career Paths 　▪ Individual Contributor (Levels / Titles) 　▪ Leadership (Levels / Titles) 　▪ Technical Roles 　▪ Sectors / Industries / Organizations	3	10
o Career Skills 　▪ Interviewing Basics 　▪ The Right "fit" Matters 　▪ Professionalism Basics 　▪ Networking and Mentorship 　▪ Continuous Learning	3	10

Performance Measures for Evaluation

All assignments are assigned through the Canvas course site.
- Late Work Policy: Late submissions will receive a 10% automatic deduction for every day past the due date. The deduction will continue until 3 days past the due date. The assignment is automatically closed on the third day at midnight. The late work policy is non-negotiable.
- Policy Regarding Contesting a Grade: You will have one week (seven calendar days) following the posting of a grade to contest the grade. If the grade is not contested by 5 pm (Eastern) on the seventh day, then the grade posted will stand as final. If the seventh day falls on a holiday, then you will have until the next business day. For purposes of contesting a grade, an email to the email address listed above with a subject line of CONTESTING MY GRADE and a body with your name, the course, the assignment, and a brief explanation of why you are contesting the grade shall constitute notice of your intention to contest a grade.

Assignment	Total Points	Percentage of Final Grade
Group Workshop Participation (8)	100 each	20%
Homework (7)	100 each	20%
Exams (2)	100 each	20%
Certificate for Panther Career Ready	100	20%
Final Project	100	20%
TOTAL		100%

Letter Grade Distribution Table

Letter	Range%		Letter	Range%		Letter	Range%
A	95 or above		B	83 - 86		C	70 - 76
A-	90 - 94		B-	80 - 82		D	60 - 69
B+	87 - 89		C+	77 - 79		F	59 or less

Sample Group Workshops (8)
1. Evaluate a public company's Finance Statements and answer key questions about growth / expense / value / valuation.
2. Using the tool provided, find a product online and re-write their "pitch."
3. Review a scenario and provide the best approach for development (tech/tool, cost, time).
4. Build a gantt chart.
5. Forecast the workload for a given project.
6. Each member of the team shares Clifton Strengths. Describe how working together demonstrated strengths, and how working with others helps to overcome "watch-out" areas.
7. Share key takeaways from Career Readiness workshop. Determine 2-3 key attributes you are searching for to "Fit-in/Stand-out" in your ideal career profile."
8. Professionalism - write an email, schedule a meeting, speak in a room, use online comms "slack," work the room in a network situation.

Sample Individual Homework (7)

1. Write a "pitch" for a product explaining unique value and quantifying expected benefit
2. Evaluate a complex project and provide the best approach using tech/tool, cost, time, and other key attributes.
3. Using the project scope provided, construct a gantt chart.
4. Using the scenario provided, estimate your work and the number of sprints needed to complete. Bonus: build key kanban cards in XX tool to demonstrate.
5. Complete Clifton Strengths Finder and bring results to the next class.
6. Create a Career Plan.
7. Attend One Career Readiness Workshop.

Sample Exams (2)

- o Introduction to Business and Technopreneurship – multiple choice
- o Introduction to Complex Projects – multiple choice

Panther Career Ready Microcredential

- ▪ https://microcred.fiu.edu/micro-credentials-catalog/index.html#&query=Career

Sample Final / Capstone Project "Shark Tank"

- o Assign teams of 3-5 students
- o Find/create one idea for a compelling product to ask for funding to develop as a company
- o Prepare a 5-10-min presentation
  - ▪ Describe the problem and proposed product solution
  - ▪ Explain the market opportunity
  - ▪ Quantify the cost and time of development
  - ▪ Explain how your investors will make money
  - ▪ Demonstrate why your leadership team is the right one to invest in!
- o A team of industry leaders will serve as judges and score across the following rubrik.

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Criteria	Excellent	Good	Average	Below Average	Poor
Pitch the idea!	Uses Story Explains in Problem-Solution format Why Unique?				
Explain the market opportunity	Quantifies TAM Forecasts Unit Pricing / Sales Forecasts Unit Profit Margin				
Describe Cost/Time of development	Quantifies time/cost/risk Acknowledges complexity and selects appropriate options Shows detailed plan				
Show investors make money	Uses ROI Visualizes data				
Demonstrate why leadership is worthy	Profiles each leader with unique strengths Shows how relates to career aspirations				

In Partnership with
Career Talent Development – Career Readiness

Reference: Career Milestones Guide

1.   Students will utilize FIU resources to identify their strengths, interests, and values to create a career plan.
2.   Students will be able to build a network of peer and professional connections through participation in different opportunities on and off campus.
3.   Students will be able to articulate their applied learning experiences in a variety of mediums to gain access to further career opportunities.
4.   Students will be able to enhance and apply their skills through experiential learning that occurs on campus and in real life settings.

Panther Career Ready Microcredential
https://microcred.fiu.edu/micro-credentials-catalog/index.html#&query=Career

Developed within the Department of Career and Talent Development, this badge recognizes knowledge in identifying resources critical to career success. Earners have demonstrated their career readiness by creating a resume, developing an elevator pitch, completing a mock interview, and applying best practices to improve their LinkedIn profiles. Earners recognize the impact of experiential learning on career outcomes and how to find internships aligned with career preferences.

Sample Career Workshops (attendance is required)

Date	Topic	Time
	Week of Welcome!	
Wed., January 17th	**GC Pit Event: New Year, New Career**	**12:00 PM-2:00 PM**
Wed., January 17th	**Envision Your Semester: Vision Board**	**2:00am-3:00pm**
Mon., January 22nd	**Springtime Resume Writing with VMock Resume Tool**	**1:00pm - 2:00pm**
Thurs., January 25th	**Elevate your Interview Skills with VMock Interviewing Tool**	**2:00pm-3:00pm**
Tues., January 30th	**Strategies for Landing Your Dream Internship**	**3:00pm-4:00pm**
Thurs., February 1st	**Mastering your Elevator Pitch and Personal Branding**	**2:00pm - 2:30pm**

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Mon, February 5th	**How to Prepare for the Career Fair**	1:00pm - 2:00pm
Thurs., February 8th	**Navigating Job Offers and Salary Discussions with Love**	
Mon., February 12th	**Career Fair Combo**	12:00am-4:00pm
Wed., February 15th	**Interviewing Skills with Disney**	2:00pm - 3:00pm
Tues., February 20th	**CTD Mini Tutorials: VMock - Resume/Cover Letter Writing Edition**	1:00pm - 2:00pm
Thurs., February 22nd	**Turning Professional Rejection into Triumph**	11:00 am - 12:00pm
February 26th – March 2nd	**Spring Break**	
Tues., March 5th	**Taking you Career Abroad with GoinGlobal**	2:00 pm - 3:00 pm
Thurs., March 7th	**Job and Internship Search Tactics for International Students**	3:00pm - 4:00pm
Tues, March 12th	**LinkedIn 101- Stepping up your Networking Game**	2:00pm - 3:00pm
Wed., March 13th	**Trailblazing Talk: a Panel for Future Leaders**	12:00 PM-1:30PM.
Thurs., March 14th	**Are you Career Ready?**	1:30pm-2:00pm
Mon., March 18th	**Tailoring your Resume for Targeted Employers**	1:00pm - 1:30pm
Wed., March 20th	**Interviewing Skills**	11:00am - 12:00pm
Tues., March 26th	**Outness in the Workplace**	2:00pm - 3:00pm
Thurs., March 28th	**How to Prepare for the Career Expo**	3:00pm - 3:30pm
Tues., April 2nd	**Job Offer/Salary Negotiation**	1:00pm - 2:00pm
Wed., April 3rd	**Career Expo**	
Thurs., April 4th	**Career Expo**	
Mon., April 8th	**Navigating the Job Search and Internship Search Process**	11:00am-12:00pm
Thurs., April 11th	**Networking Skills/Elevator Pitch**	11:00am - 11:30am

Career Resources

- o Insert: CTD Webpage
- o Career Exploration / Fit
  - ▪ Clifton Strengths/MBTI/Strong Assessments
  - ▪ NACE Competencies (Panther Career Ready Micro Credential Workshops)
  - ▪ More exploration: affinity groups/career communities on soon to be published CTD webpage
- o Career Search
  - ▪ Employer Info Sessions
  - ▪ Career Fairs (Internship, Tech, All Majors)
  - ▪ Internships: Handshake
  - ▪ Handshake Feedback on Employers
  - ▪ Micro Internships: Parker Dewey
  - ▪ LinkedIn (Use Vmock tool to enhance Profile)
  - ▪ Mock Interviews (Vmock tool for resumes, elevator pitch, mock interviews, linkedin optimization)

- o Student Support
  - ▪ Student Organizations (aligned by Major)
  - ▪ Alumni Mentoring