New Jersey Institute of Technology
University Heights
Newark, NJ 07102-1982

School of Applied Engineering & Technology
Fenster Hall Suite 200
Phone: 973.596.3228
Fax: 973.624.4184
Email: EngineeringTechnology@njit.edu

NEWARK COLLEGE OF ENGINEERING

SYLLABUS AND COURSE INFORMATION

Instructor Information:

Name: Chang Yaramothu, PhD
Email: Chang.yaramothu@njit.edu **Phone:** 973-642-4844
Office: Fenster 220 (Virtual Appointments Preferred)
Office Hours: Wednesdays 9:00AM – 10:00AM

Course Information:

Course Name: Biomedical Experiential Learning
Course Number: BMET 440-342
Course Structure: 0-3-3 (lecture hr/wk – lab hr/wk – course credits)
Meeting Times:

Day	Meeting Time	Building	Room
Scheduled Meetings with advisor			

Course Description: This course provides students with an experiential learning opportunity in a biomedical environment. Students will have the option to select a biomedical laboratory/facility or industry location to receive training and conduct a project. Experiential areas include biomedical engineering research, healthcare, medical device fabrication, or rehabilitation. Students will also acquire project management and communication skills, producing project summaries, progress reports, and a final report/presentation.

Prerequisites: Minimum junior level standing and permission of program coordinator

Corequisites: None

Required Materials: N/A

Course Outcomes: By the end of the course students are able to:

1. Describe the biomedical processing, inspection, and testing processes.
2. Apply biomedical processing, inspection, and testing process knowledge to specified projects.
3. Apply biomedical processing, inspection, and testing process knowledge for protocol development and process maps.
4. Apply applied biomedical knowledge toward project planning.
5. Develop skills to work in a team-based environment.
6. Apply knowledge of math, engineering, and science to interpret data.
7. Prepare engineering documents and reports

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Class Topics:

Biomedical Research	Biomedical Products & Safety
Good Laboratory Practices	Testing & Data Analysis
Laboratory/Facility Safety	Operating in Quality Management System
Bioprocessing	Ethical Practices
Documentation	Presentation and Communication

Student Outcomes: The Course Learning Outcomes support achievement of the following Student Outcomes from the ETAC of ABET Criterion 3 requirements.

Student Outcome (1): An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies.
Related C.O. –2, 3, 6, 7

Student Outcome (2): An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives.
Related C.O. – 2, 3

Student Outcome (3): An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.
Related C.O. – 1, 4, 7

Student Outcome (5): An ability to function effectively as a member as well as a leader on technical teams.
Related C.O. – 4, 5, 7

Academic Integrity: Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university.

AI/Generative AI/LLM (AI) usage is permitted in this course only in specific assignments. The assignments which permit the usage of AI will be specifically stated, a lack of explicit permission is an explicit

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implication that AI usage is not permitted. Various tools and resources will be utilized to validate academic integrity.

If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu

Modification to Course: The Course Outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be notified in class of any changes to the Course Outline.

Prepared By: Chang Yaramothu

Course Coordinator: Chang Yaramothu

Updated: 3 September 2024

GRADING POLICY

Your final grade will be determined according to the following scale:

Final Grade	Range
A	100% - 90%
B+	90% - 85%
B	85% - 80%
C+	80% - 75%
C	75% - 70%
D	69% - 60%
F	59% - 0%

Assignments will be weighted towards your final grade by these percentages:

Weekly Progress Reports:	35%
Assignments:	30%
Final Report:	35%

WITHDRAW POLICY

Carefully monitor dates if you plan to exercise your option to withdraw from the course. Withdraw dates are listed in the academic calendar located at:
http://www.njit.edu/registrar/calendars/

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ATTENDANCE POLICY

Attendance is necessary for success in this class, and is required. Regular attendance may not be taken, however if you are absent a day in which you are randomly called for oral review or for roll call, you will get a zero for that activity – unless you have an excused absence or an extenuating circumstance. If you are absent on the day of a quiz or exam you will get a zero for that activity.

Excused absence is one where you have the given the instructor at least 48 hours of notice (e-mail is acceptable) of your absence. You may have one – and only one – excused absence during the semester, though it can be for any reason.

Extenuating Circumstances are those that are truly beyond your control, such as sudden illness, or death of family member. Written documentation must be provided for an extenuating circumstance to be valid (such as a letter from a physician, or an obituary / funeral house notice). Undocumented cases will not be honored.

Tardiness You will be considered present if you are in class during the first 5 minutes of the class, and remain in class during the entire (remaining) duration of the class. If a quiz or oral review missed due to tardiness it will be counted towards your excused absence. Any additional absences or tardiness will result in a zero grade for the missed activity and attendance.

If you miss a class, you are responsible for any missed material.

PROJECTS

Projects may be assigned in lieu of exams or traditional assessments. Grading of projects is subject to the requirements of the projects, professionalism, and completeness. Projects are individual assignments but discussion among your peers is encouraged.

LATE ASSIGNMENT POLICY

Late assignments will be penalized according to the scale:

- Homework is not accepted late – 0% credit

All other assignments:

- Less than 24 hours late –75% maximum credit
- 24 to 48 hours late – 50% maximum credit
- More than 48 hours late – 0% maximum credit

ACCOMMODATION FOR DISABILITY

If you have a documented physical and/or learning disability, please feel free to inform me or the NJIT Office of Accessibility Resources and Services (https://www.njit.edu/accessibility/)

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regarding what kind of accommodation you need to help you succeed in this class. While you are not required to disclose your disability to me, you must provide appropriate documentation to receive official university assistance. All such requests will be held confidential to the fullest extent possible.