# VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
# M.Sc. MICROBIOLOGY SEM IV

## MB 4002 C: Startup or prototype development project

### 1. Course Code & Title

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| Course code: | Core course (MB 4002 C) |
| Course title: | Startup or prototype development project |
| Course type: | Core |
| Course credits: | 20 |

### 2. Course overview and Course Objectives

Students will use the innovative minds to address the real-life problems. Gain the understanding of the steps involved in taking an idea from conception to marketability. Gain insight into the process of developing and implementing strategies for commercializing innovations. Create a business model canvas and a portfolio showcasing the company's innovations. Students lay the groundwork for analyzing the innovation process and then move on to discussing how to commercialize new ideas. Student can work in any institute under SSIP grant or institutional startup and entrepreneur grant at regional, state and national level agencies. The ultimate goal of startup and prototype project is to improve the skill of students to developed prototype by translating the scientific knowledge from lab to land. On successful completion of this project, students must prepare and present the report or thesis during the evaluation. The report or thesis includes the introduction, literature review, objectives, methodology, result, output, marketability and commercialization status and summary with suitable references.

**Course Objectives**

- This course gives students a taste of the innovative and entrepreneurial world.
- Students are daring to venture beyond academic research into commercialized forms.
- Provide opportunity to commercialized the laboratory developed products or
- process.

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- Start-ups can benefit from innovation strategies to gain and maintain a competitive advantage.
- Students will apply the innovative minds and works in a team to developed products and process
- Ignite the student for mind to market concept

**3.Course Learning Outcomes/Student's Learning Outcomes (SLO)**

Student will learn to:

- Students become an entrepreneurs or innovators
- Prototype development to conversion into a commercial start up through this practical example
- Students gained extensive knowledge in the areas of entrepreneurship development and project management.
- Creativity and business idea generation and exploiting new entry opportunities.
- Initiate the translational research

**Recommended learning resources**


- Davis M, Davis K. and Dunagan M., (2012), Scientific papers and presentations: Effective scientific communication, 3rd edition, Elsevier and Academic press, (ISBN: 978-0-12-384727-0)
- Wallwork A., (2011), English: for writing research papers, Springer science plus Business media, LLC, (ISBN: 978-1-4419-7921-6)
- https://ihubgujarat.in/
- http://www.ssipgujarat.in/
- https://mic.gov.in/innovation-council/iic
- https://stbi.gujarat.gov.in/


## Guidelines for MB 4001 & MB 4002

**MB 4001**

- Faculty has to mentor the allotted students for selected topics of seminar.
- With the given reference the teacher can orientate the student by conducting lecture to create awareness regarding reading, preparation and publication of review paper
- Students have to individually deliver a seminar on the advance or novel topic in the subject of microbiology, other than that mentioned in the curriculum.
- Teacher has to evaluate seminar of individual student and prepare for the final presentation of the allotted students
- Topic should not be related to his/ her dissertation.
- A seminar should be delivered within **15 minutes**.
- Students have to submit one copy of colour printed hand outs (**02 slides/ page**) of his/her presentation to the examiner.

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**MB 4002**

- Faculty has to mentor the allotted students for the dissertation.
- Work can be done individually or in a pair on any topic related to **microbiology.**
- Student have to select any one from the given three subjects, faculty has to mentor the allotted students for the dissertation, Industrial Training/Internship Project or Start-up or prototype development project
- Dissertation and Start-up or prototype development project can be done individually or in a pair on any topic related to microbiology. But **Industrial Training/Internship has to be completed individually only**
- Dissertation and Industrial Training/Internship Project may be carried in house or outside the college/university campus after due permission granted by the supervising teacher and institute head at the following recognized institutions or industries including
  - Any UGC recognized academic organization
  - Any agricultural university
  - State or national level research institute
  - ISO or FDA/USFDA/NABL/ICMR/FSSAI/GLP industry
  - Any research Centre having R & D and Q.C facilities
- Faculty will mentor the students for **Scientific writing & communication which includes** Communication skill in science, searching of scientific journals & resources, reviewing scientific literature, Preparation of graphs and tables to present the scientific data, Online grammar checking in scientific writing, References management by online tools, delivering effective oral presentation, Preparing and presenting research poster, writing a research paper and compiling a dissertation thesis, Plagiarisms checking, Publishing in scientific journal
- The thesis of dissertation work, report of the industrial training/ internship project as well as the report of start-up or prototype development project will be evaluated by examiner(s) which includes evaluation and presentation. The presentation shall be done by the students in audio-visual mode by the candidate within 15 minutes.

- The candidate has to submit their thesis / report in a standard hard-bound or spiral-bound thesis and soft copy in PDF format.

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