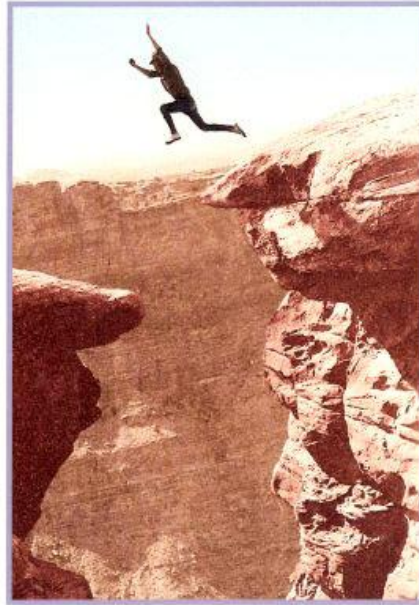


# Syllabus

## CTEC 2: Business Model to Launch



"The great pleasure in life is doing what  
people say you cannot do."  
- Walter Dill Scott

**Rutgers University**  
**MBA 22 620 687/688**  
**MSE 16 606/692**  
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# **CTEC 2: Business Model to Launch**

## **Syllabus**

**Classroom: BRR – 4087**

(100 Rockefeller Rd, Livingston Campus)

**Our Goal is to develop the next generation of entrepreneurs, while building high growth, technology-based companies for the future.**

*We believe this can only be done through a hands-on, real world, apprenticeship experience.*

### **Course Objectives**

The course is intended to be useful to scientists and engineers who may follow career paths that evolve from pure R&D toward more direct commercial activities, and for business students and professionals who will be working in technology-intensive industries. It is useful for anyone wishing to engage in for-profit entrepreneurship.

Our primary objective is to teach students how to bring the ideas developed in CTEC 1 to fruition through creation of a new business. More generally, students will:

- Learn to gather and structure information into a business plan
- Learn to develop product ideas and commercialization plans
- Learn to develop a sensible commercialization strategy for a new venture
- Learn to implement business ideas in the real world
- Learn how to present business, product, financial, and operational plans to those who are potentially interested in supporting their efforts.

As the second course in the CTEC sequence, CTEC 2 uses the information gathering, evaluation and decision processes undertaken in CTEC 1 to prepare business plans for commercialization. Throughout this course we maintain a consistent pedagogical focus: the best way to learn entrepreneurship is to engage in entrepreneurship. The overarching commitment of the course is therefore to identify and exploit real entrepreneurial opportunities, primarily through the mechanism of creating new businesses. We encourage subsequent student participation in start-up businesses in a manner that is appropriate for both the student and the business.

### **Student Responsibilities**

Students participate in the course as an educational exercise. As a participant in the course, however, you agree to certain responsibilities to the university, CTEC and those who provide us with technologies used in the course. All information, reports and analyses pertaining to the projects undertaken in the course become the property of CTEC and must be kept confidential and may not be used by you or other students or transmitted for use by students or anyone else for any reason without prior written consent from CTEC.

We make every effort to insure that all technologies admitted to the course are available for commercialization; however, we do not take ownership of these technologies. In exchange for

access to the technologies, CTEC agrees to share information developed during the class with the owners of the technology, on the understanding that the intent of all involved is to start a new company with CTEC students embedded in the startup. Students earn the right to participate through their efforts and demonstrated knowledge and skills gained over the two course sequence.

## Course Structure

The course consists of class meetings and team meetings. The class meets on Wednesdays from 6:40-9:30pm. The first half of the class (45 to 90 minutes) includes lectures from the course instructors. The second half of each class consists of team meetings, which include the students and the mentors assigned to support their team. In general, we expect that it will be necessary for the team to meet at least once per week in addition to the meeting time provided on Wednesday, and in addition to the time that team members devote to individual class and project tasks. These additional team meeting times are to be arranged by the teams and mentors. The mentors will use their own discretion whether to attend these additional meetings. The teams will discuss and report their progress and activities to their mentors each week.

## Class Impact

Here are some of the career paths for which the program has helped prepare students:

High-Tech Start Up Companies	Large R&D Intensive Corporations	Venture Capital Industry
<ul style="list-style-type: none"> <li>• Senior Mentors</li> </ul>	<ul style="list-style-type: none"> <li>• Corporate Venturing</li> </ul>	<ul style="list-style-type: none"> <li>• Partners</li> </ul>
<ul style="list-style-type: none"> <li>• Founders</li> </ul>	<ul style="list-style-type: none"> <li>• R&amp;D Management</li> </ul>	<ul style="list-style-type: none"> <li>• Associates</li> </ul>
<ul style="list-style-type: none"> <li>• Business Development</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic Technology Management</li> </ul>	<ul style="list-style-type: none"> <li>• Analysts</li> </ul>
<ul style="list-style-type: none"> <li>• Strategic Alliance Management</li> </ul>	<ul style="list-style-type: none"> <li>• IP Management</li> </ul>	
<ul style="list-style-type: none"> <li>• Technology Marketing</li> </ul>		

## Assignments

Each team will be responsible for completing all assigned worksheets and the following major deliverables:

- Voice of Customer Report
- Business Plan
- Business Pitch
- Contact Logs

All team deliverables will be included in their '*Deliverables*' folder. These are due on specified weeks throughout the semester (see Course Schedule). The mentors will monitor and encourage team progress on each deliverable.

## Evaluation Criteria

There will be three areas considered during evaluation:

- Team Deliverables
- Individual Contributions
- Peer Evaluations

Team Deliverables. Each team will turn in the CTEC assignments, including each section mentioned in Team Deliverables, as well as the worksheets and team management reports. The team's mentors monitor the Deliverables folder on a weekly basis, which must be up-to-date at the weekly Wednesday team meeting for this purpose. The Deliverables folder is evaluated by the team's Mentors at the end of the semester and is a major source of the team grade. The Workbook is evaluated on technical correctness, completeness, as well as the amount, and quality of work. **Particular attention is paid to the decision-making of the team.**

Individual Contribution will be evaluated based on: (the evaluator is given in parentheses)

- attendance at class and team meetings (Instructors and Mentors).
- timely completion of assigned work (Mentors).
- contribution to the team meetings (Mentors) and class discussions (Instructors).
- quality of assigned work (Instructors and Mentors).
- performance measured against specific team role(s) (Instructors and Mentors).

Peer Evaluations. A peer evaluation form will be provided to every team member. Each team member will use the form to provide assessments of their own and their teammate's contributions.

## Grading

There will be a total of 100 points available, distributed as follows:

Midterm Presentation	10
VOC Results	15
Local Contacts	10
Final Business Plan/Team Decisions/Presentation	35
Individual Contributions	20
Peer evaluation (5 at midterm and 5 at final)	<u>10</u>
TOTAL	100 points

### Grades will be assigned as follows:

$A > 93;$     $93 \geq A- > 90;$     $90 \geq B+ > 86;$

$86 \geq B > 83;$     $83 \geq B- > 80;$     $80 \geq C+ > 76$

$76 \geq C > 73;$     $73 \geq C- > 70;$     $70 \geq D+ > 66$

$66 \geq D > 63;$     $63 \geq D- > 60;$     $60 \geq F$

## **Textbook**

There is no textbook required for the course. Course materials are available at the CTEC web site. Course materials include.

- Syllabus and Schedule
- Workbook
- Readings

Additionally, the lecture materials for the week will be posted on the CTEC website preceding the Wednesday lecture (assuming no technical difficulties).

Note on readings: In general, the amount of reading required for this course is not burdensome. The specific readings to be assigned and due dates will be adjusted to accommodate emerging course, team and project needs.

## **Time Commitment**

Each student is required to meet each Wednesday night from 6:40 pm to 9:30 pm and with the team one other time per week. Students are also required to meet with other people necessary to complete the team's caseload. Finally, team members have individual work assigned to them by the team during the week. Assignments and meeting attendance will be reported to team mentors each week.

## **Attendance**

Attendance at all regularly scheduled class meetings is mandatory. Team meetings with your team are mandatory. Meetings with other people to gather information about your project will be assigned in team meetings and are mandatory. Your participation in gathering data and preparing reports is mandatory. Your team mentors and team leader should be contacted in advance if, for any reason, you cannot attend a meeting.

## **Contact Information and Office Hours**

If you have questions or concerns or are interested in talking about the course or your goals, it is recommended that you deal with them as follows:

- Simple procedural questions, i.e. regarding deliverables, dates, etc. – ask at the beginning of class, or email Roger Debo and copy Ted Baker and Stephen Tse.
- Academic questions regarding course content – ask in class, email the set of instructors, or ask the team mentor.
- Using email, set up a meeting with any of the instructors.

## **Professional Ethics**

Any breach of professional ethics will result in dismissal from the class, an automatically failing grade in the course and a report to the university for further disciplinary action. A breach of professional ethics includes violating the conditions of course enrollment or academic dishonesty.

It is unethical to put your name on work for which you do not contribute. If for any reason you are only able to make minimal contributions to your team it is ethical and professional to report your actual level of contribution. You will have the opportunity to report your level of contribution at the end of the semester.

## CTEC 2 Course Schedule

WS = Worksheet

Week	Date	Topic	Assignment Due
1	1/20	Intro to CTEC 2 VOC (Voice of the Customer) Team Shuffle	- Innovation Charter WS Update: - Technology Descript. WS - TPM WS - Product Attributes WS - PAMM WS - Value Proposition
2	1/27	Interviewing Compelling Business Case Entry & Expansion	VOC Materials: - Product Definition WS - Product Advantages WS - Product Requirements WS - VOC Plan
3	2/03	Commercialization Strategy Core & Complementary Assets & Strategies CTEC Strategy Map Elevator Pitch	- Entry & Expansion WS
4	2/10	Business Plan Opportunity Product Descriptions Technology Descriptions Student Presentations	- Core Asset Worksheet
5	2/17	Building Financials – Guest Speaker Revenue Models	- Letter of Intent
6	2/24	Marketing/Sales Organization Operations Student Presentations	- Revenue Model Worksheet - Strategy Map WS
7	3/02	<b>Presentation (10 min.)</b> Financial Strategy Technology Status Appendix	- <b>VOC Initial Results (Graded)</b> - <b>Presentation</b>
8	3/09	<b>Venture Capital – Guest Speaker</b> Presentation format Presentation Skills	- <b>Peer Evaluations due: Monday, 3/7 @ 5:00p</b>  - Technology Status Worksheet

## CTEC 2 Course Schedule

Week	Date	Topic	Assignment Due
9	3/16	<b>SPRING BREAK</b>	
10	3/23	Student Presentations (SBDC)	- 1 <sup>st</sup> Draft Business Plan
11	3/30	<b>Presentation (15 Min.)</b>	- Presentations
12	4/06	TBD – Guest speaker Entrepreneur	
13	4/13	Financial Review TBD – Guest speaker Healthcare	
14	4/20	TBD – Guest speaker Lawyer	
15	4/27	<b>Presentations (15 Min.)</b>	- <b>Presentation</b>
16	5/04	<b>All Materials Due by 6:00PM</b>	<ol style="list-style-type: none"> <li>1. Deliverables (including Presentation)</li> <li>2. Business Plan</li> <li>3. Peer Evaluations (Due Monday, 5/2, @ 5:00p)</li> </ol>



# Introduction to the Class: Students and Mentors

## Role of the Students

As a student your role will be to develop high quality commercial evaluations of technologies and business strategies in a professional manner. In the class you will learn the basic tools of technology commercialization. Under the direction of Team Mentors you will learn how to apply the tools to actual cases. Students, like professionals, have multiple responsibilities. You have responsibilities to your fellow team members, and to the Class. You will be expected to give your best effort to every project you are assigned. You are expected to carry your fair share of the work in the team. You are also expected to conduct yourself with integrity and professionalism.

### Relationship with Technologist

Once the projects have been determined for the team, the students will be responsible for the relationship between Team and Technologist. You will be responsible for establishing a working relationship with the technologist and any other external parties deemed important to your project. We strongly recommend that each team assign one member to act as liaison for each external party to better manage the flow of communication.

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## Role of the Mentors

The role of the Mentors is to provide overall coaching to the team, evaluate the team and individual contributions, monitor the team's interface with external parties and assist in the transition of the project to the next logical phase of development.

### Relationship with Team

Mentors will be in charge of monitoring their teams. They will make sure weekly assignments are made and evaluate performance. Mentors will check the Deliverables folder on a weekly basis, ensuring that worksheets are completed, progress is made, and contacts are logged. The students look to the Mentors for guidance on how to conduct the technical part of the project and more importantly as an example of how to manage people in this most difficult managerial challenge of commercializing technology. Mentors should monitor the team's skills at conflict resolution. Effective commercialization requires a certain amount of creative discord within the team. The Mentors need to both encourage and mitigate this part of the process.

Specific responsibilities of the mentors for the semester:

- Act as coach and mentor
- Check assignments
- Monitor and assist team in making outside calls and contacts
- Keep up with team activities by being on the email loop
- Provide an early warning to the instructors of team problems
- Provide input for grading the team and individuals with a focus on: team decision making; individual commitment and contributions; individual performance measured against team role.

## **Team Roles**

Teams need to assign specific roles and responsibilities. There should be a Team Leader and a Secretary. Other Team roles can be assigned as necessary. Roles should be created in response to the nature of the projects and the skills of the team members.

## **Relationship with Technologist**

Once the projects have been determined for the team, the students will be responsible for the relationship between Team and technologist. They may delegate regular contact to a particular member. The Mentors monitor the communication with the technologist and help them form a working relationship.

## **Executive Team Meeting Agenda**

Most of the actual management of the team should take place in the Executive Team Meeting. This is the regular Wednesday evening meeting between the mentor and the team. In this meeting the Mentors should ensure an agenda is followed to make assignments, and to follow-up on assignments. The Mentors are responsible for evaluating individual contributions.

## **Making assignments**

Rather than micro managing each activity, the mentors should encourage the team to organize the project and assign tasks. The Mentor's responsibility should be to ensure the project work is being assigned in an orderly and fair manner.

## **Following up on assignments**

Most teams struggle with completing assignments. Experience shows that students have difficulty policing other students. Therefore, the Mentors will pay particular attention to the timely completion of assigned tasks.

## **Tracking Student contributions**

A significant percent of the grade for each student depends on his or her individual level of contribution. This requires the Mentors to make individual contribution assessments. This assessment is done in the Executive Team Meeting by simply noting who is contributing to the discussion, completing assignments and who is not. The Mentors also note the magnitude of the assignments and how well they were done.

## **Evaluation**

Mentors are responsible for evaluating their teams. Individual Contributions count for a significant portion of the student grade, and this depends on the quantity and quality of completed assignments. Students will often engage in "extra role" behavior that should be part of the assessment. Extra role behavior includes both negative and positive actions and attitudes that affect the Team's performance.

Project performance makes up a large percentage of the grade. All students on the team receive the same Project grade. The Deliverables folder is the primary source of evaluation for the project. All the team's activities and deliverables, including presentations, reports, Technologist communications, contact logs, worksheets, and reference materials are kept in this folder.

## **Decision Making**

When considering whether or not to continue working on a technology, a formal decision meeting must be held. This helps the team arrive at a decision in a systematic and disciplined manner.

## **Communicating with the Technologist**

Students should seek effective communication with the technologist. We hope the Technologists will become an active part of the team. Nevertheless, they should receive a letter from the Team at the beginning of the project welcoming them into the class, set expectations, and provide information about how to work with the team. Finally, the Team should ensure a final letter and report is sent to the technologist. This final communication with the technologist is extremely important. It must be designed to ensure closure in a positive manner, with the technologist satisfied with the contributions made by the team.