Research and Development is the source of competitiveness and key ingredient for leadership and innovation in technology heavy industries and economies. This course will investigate components of R&D and key management issues around them. The class will cover R&D related technology management strategies, Types of research and development, Collaboration, transfer and integration of R&D, International issues, New Product Development, Project Selection as well as Uncertainty around R&D Projects.

**GRADING AND EXPECTATIONS**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
<td>20%</td>
<td>Individual</td>
</tr>
<tr>
<td>Article Discussion</td>
<td>15%</td>
<td>Individual</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
<td>Individual</td>
</tr>
<tr>
<td>Project Report</td>
<td>35%</td>
<td>Team</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
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**GUIDELINES FOR DELIVERABLES**

**CASES** – Cases are due to the day of the case – NO EXCEPTIONS – Case Studies are expected to be no less than 3 pages and no more than 5 pages (single spaced- 12 pt). The expected output from the case study report is the incorporation/application of material from book and articles that were due to the same week to the case material. You are expected to use the techniques and case material to do actual forecasting.

**RESEARCH PROJECT** - You will identify an emerging topic in R&D Management and conduct literature research on it. These projects can include Organization of R&D Management, Comparison of R&D Management in Different Industries or Countries, R&D Teams, R&D Project Selection and/or Management

**ARTICLES** – Each student will be assigned 2 articles to present in the class – you are required to compare the reading to class material and summarize the key takeaways from the article

**TAKE HOME FINAL EXAM** – Each student will be assigned an individual topic and develop a paper based on it. The students may also propose topics. The topics will need to be approved by the professor.
CLASS MATERIAL

Cases – required

1. Vertex Pharmaceuticals: R&D Portfolio Management (A), Product#: 604101
2. Siemens AG: Global Development Strategy (A), Product#: 602061
4. Wyeth Pharmaceuticals: Spurring Scientific Creativity with Metrics, Product#: 607008
5. Novartis AG: Science-Based Business, Product#: 608136

Books


Article List

Planning

6. Daim T.U., Gerdssi N, “Technology Intelligence for Predicting Research and Development Progress of Emerging Technology Applications: Case of Interconnect Technologies and Standards” Int. J of Technology Intelligence and Planning – accepted for publication, 2008
Development

15. Basoglu N, Daim T, Sofuoglu E, A Decision Methodology for Customizing Software Products, Int’l J of Industrial and Systems Engineering - accepted for publication, 2008

Commercialization

22. Kargin B, Basoglu N, Daim T, "Factors affecting the adoption of mobile services" International Journal of Services Science, accepted for publication

**International R&D Management**


<table>
<thead>
<tr>
<th>Week/Day</th>
<th>Subjects to be Covered</th>
<th>Assignment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/24</td>
<td>• Introduction/Teams Formed</td>
<td>• List of Team Members</td>
</tr>
</tbody>
</table>
| 7/1      | • **Lecture:** “Research and Development – an Introduction”  
           • Class Discussion: Team Project Topics  
           • Case Study 1 | • Daim et al pages 375-456 – everybody reads |
| 7/8      | • **Lecture:** “R&D Management Strategies – Best Practices”  
           • Case Study 2 | • Case Study Report  
           • Daim et al pages 457-536– everybody reads |
| 7/15     | • **Lecture:** “R&D Management Trends”  
           • Case Study 3  
           • Article Discussion | • Case Study Report  
           • Articles 1-7– everybody reads |
| 7/22     | • **Lecture:** “Managing R&D Projects – research, technology and product development”  
           • Case Study 4  
           • Article Presentations | • Case Study Report  
           • Articles 8-15 |
| 7/29     | • **Guest Lecturers**  
           • Mitali Monalisa  
           • Athar Pasha  
           • Case Study 5 | • Case Study Report  
           • Articles 16-23 |
| 8/5      | • **Final Team Presentations**  
           • Case Study 5  
           • Article Presentations | • Case Study Report  
           • Articles 24-32 |
| 8/12     | • **Take Home Final Exam Due** | |