

```
# OVERALL SATISFACTION ANALYSIS
```

```
# =====
```

```
overall_avg = df['Avg_Score'].mean()
```

```
print("Overall Average Satisfaction (%) :", round(overall_avg, 2))
```

```
plt.figure()
```

```
plt.hist(df['Avg_Score'], bins=10)
```

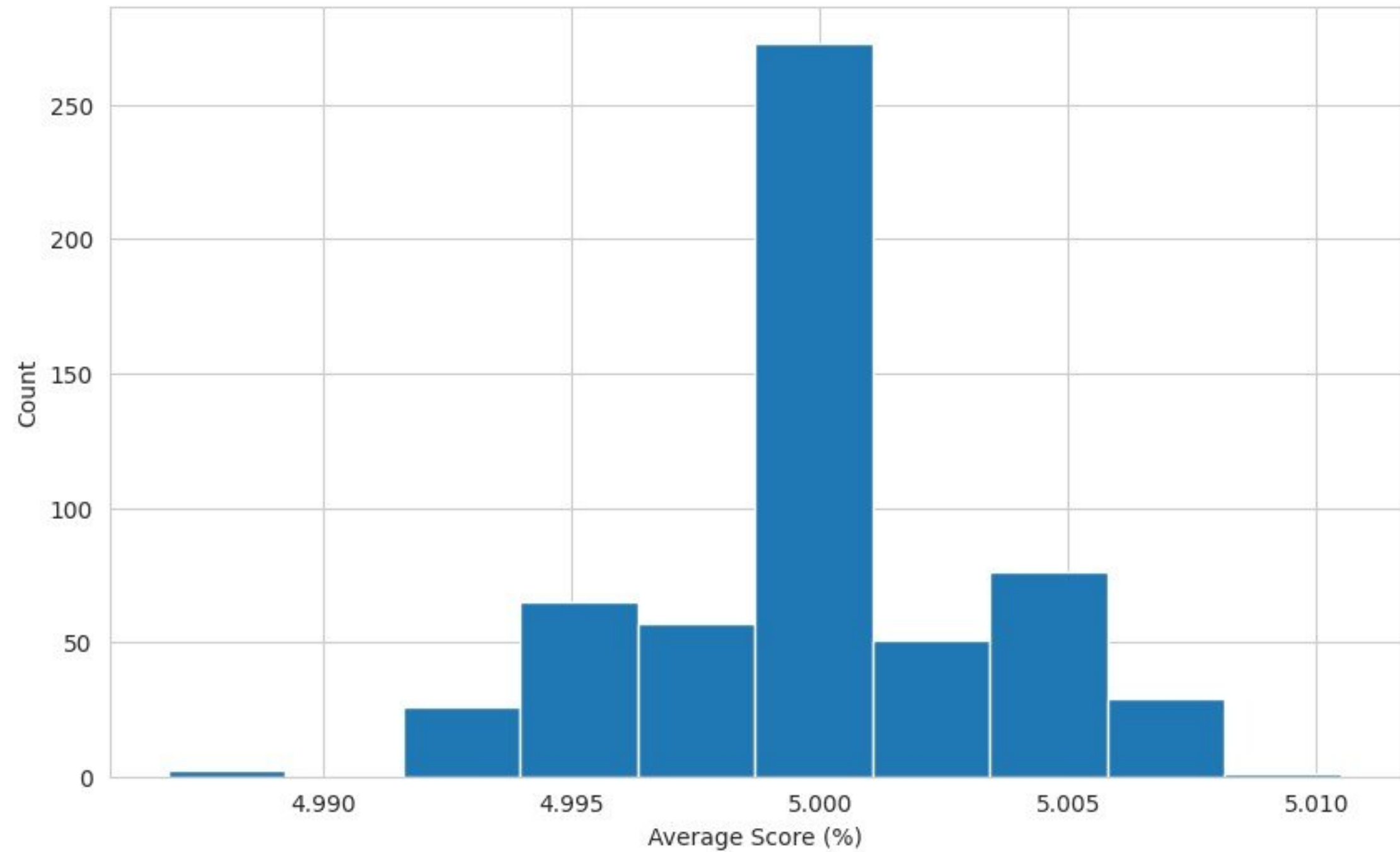
```
plt.title('Overall Satisfaction Score Distribution')
```

```
plt.xlabel('Average Score (%)')
```

```
plt.ylabel('Count')
```

```
plt.show()
```

Overall Satisfaction Score Distribution



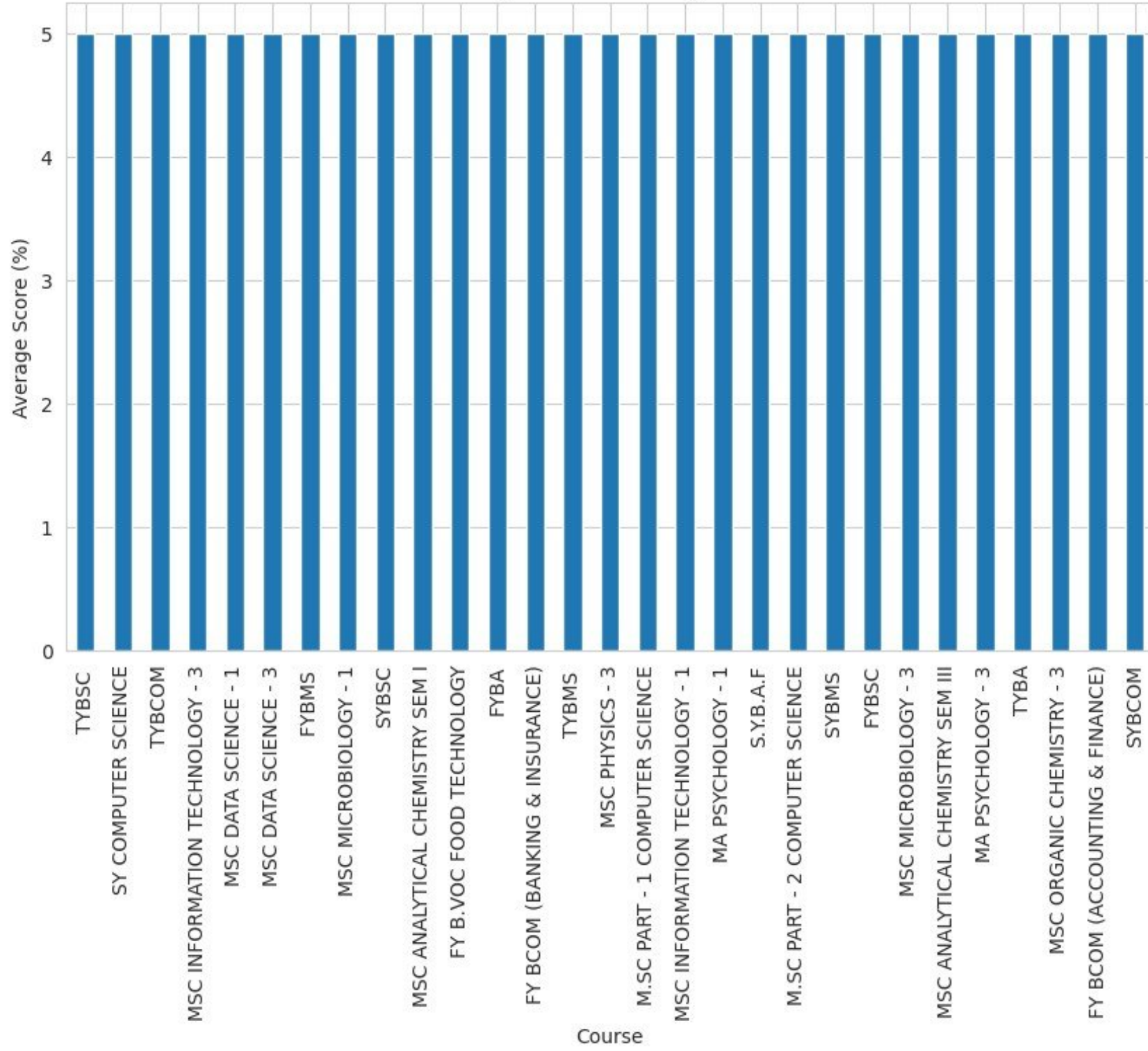
```
# COURSE-WISE ANALYSIS
```

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# =====
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```
course_avg = df.groupby('Course')['Avg_Score'].mean().sort_values(ascending=False)
print(course_avg)
```

```
plt.figure()
course_avg.plot(kind='bar')
plt.title('Average Satisfaction by Course')
plt.ylabel('Average Score (%)')
plt.xlabel('Course')
plt.show()
```

Average Satisfaction by Course



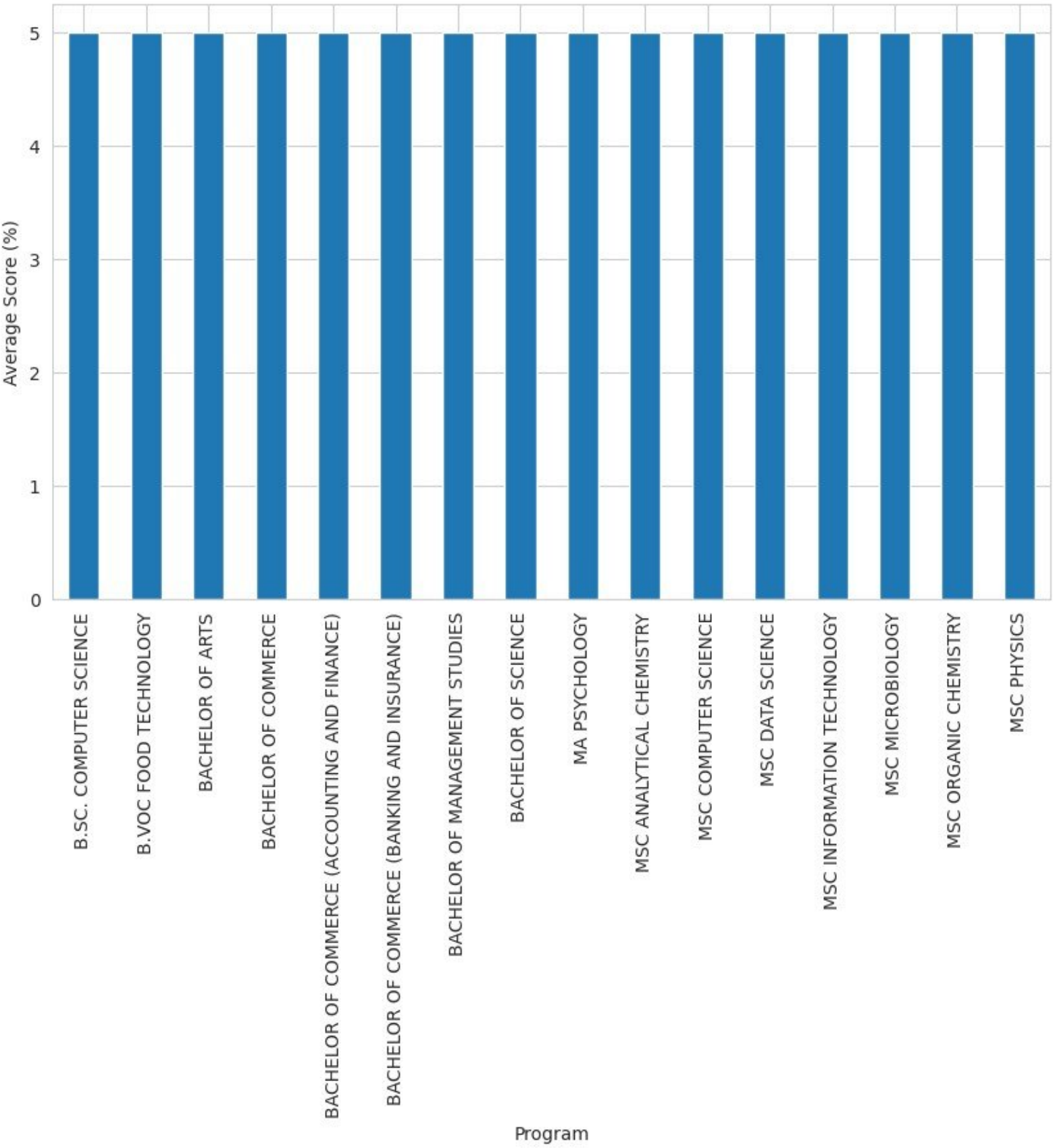
```
# PROGRAM LEVEL ANALYSIS
```

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# =====
```

```
program_avg = df.groupby('Program')['Avg_Score'].mean()  
print(program_avg)
```

```
plt.figure()  
program_avg.plot(kind='bar')  
plt.title('Graduation vs Post Graduation Satisfaction')  
plt.ylabel('Average Score (%)')  
plt.xlabel('Program')  
plt.show()
```

Graduation vs Post Graduation Satisfaction



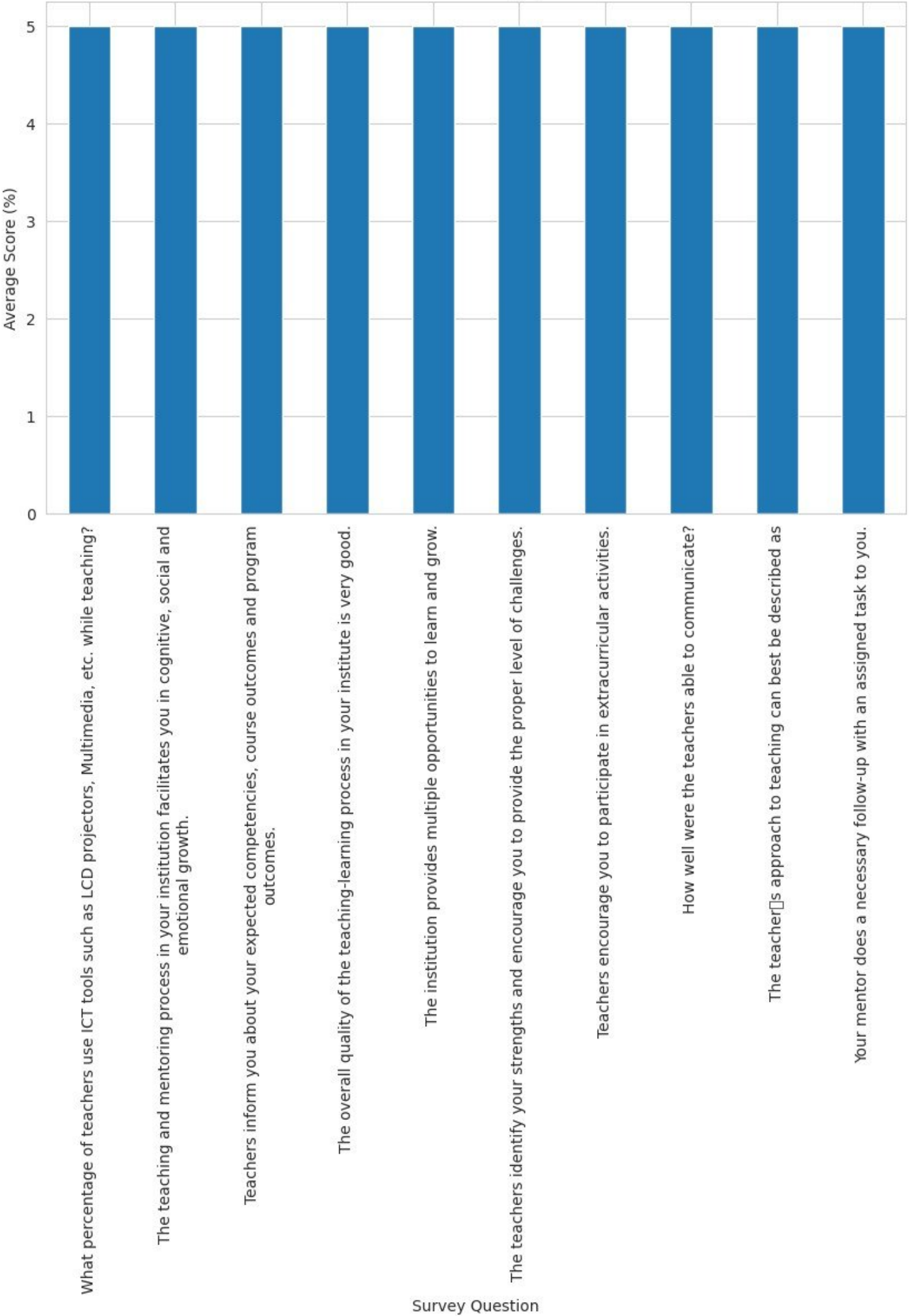
```
# QUESTION-LEVEL ANALYSIS
```

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# =====
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```
question_avg = df.groupby('Questions')['Avg_Score'].mean().sort_values()
print("Lowest Rated Questions:")
print(question_avg.head(5))
```

```
plt.figure()
question_avg.head(10).plot(kind='bar')
plt.title('Lowest Rated Survey Questions')
plt.ylabel('Average Score (%)')
plt.xlabel('Survey Question')
plt.show()
```

Lowest Rated Survey Questions




```
# PARTICIPATION RATE
```

```
# =====
```

```
df['Participation_Rate'] = (df['Responses'] / df['Batch_Strength']) * 100
```

```
plt.figure()
```

```
df.groupby('Course')['Participation_Rate'].mean().plot(kind='bar')
```

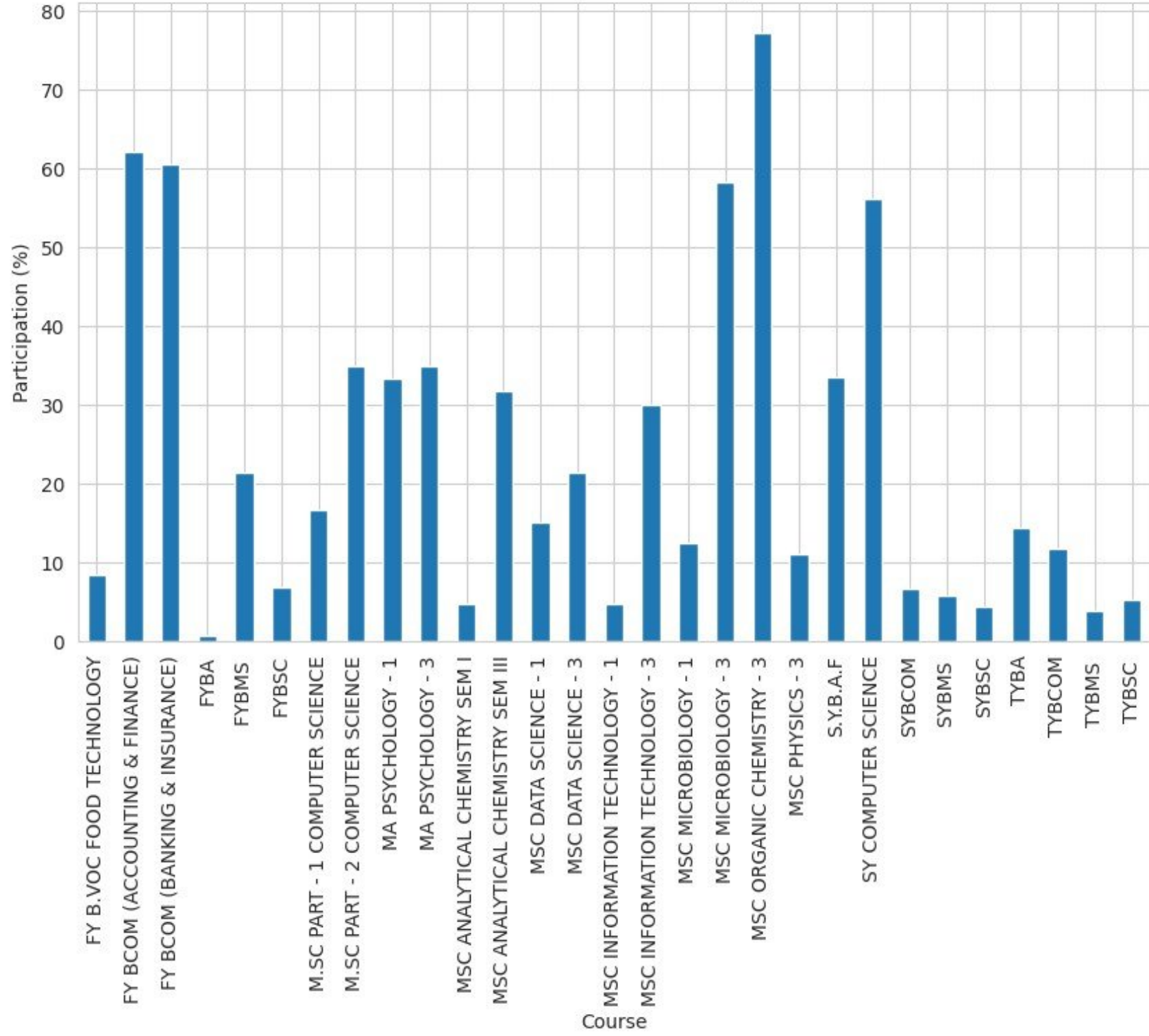
```
plt.title('Feedback Participation Rate by Course')
```

```
plt.ylabel('Participation (%)')
```

```
plt.xlabel('Course')
```

```
plt.show()
```

Feedback Participation Rate by Course



```
# SATISFACTION LEVEL CLASSIFICATION
# =====
```

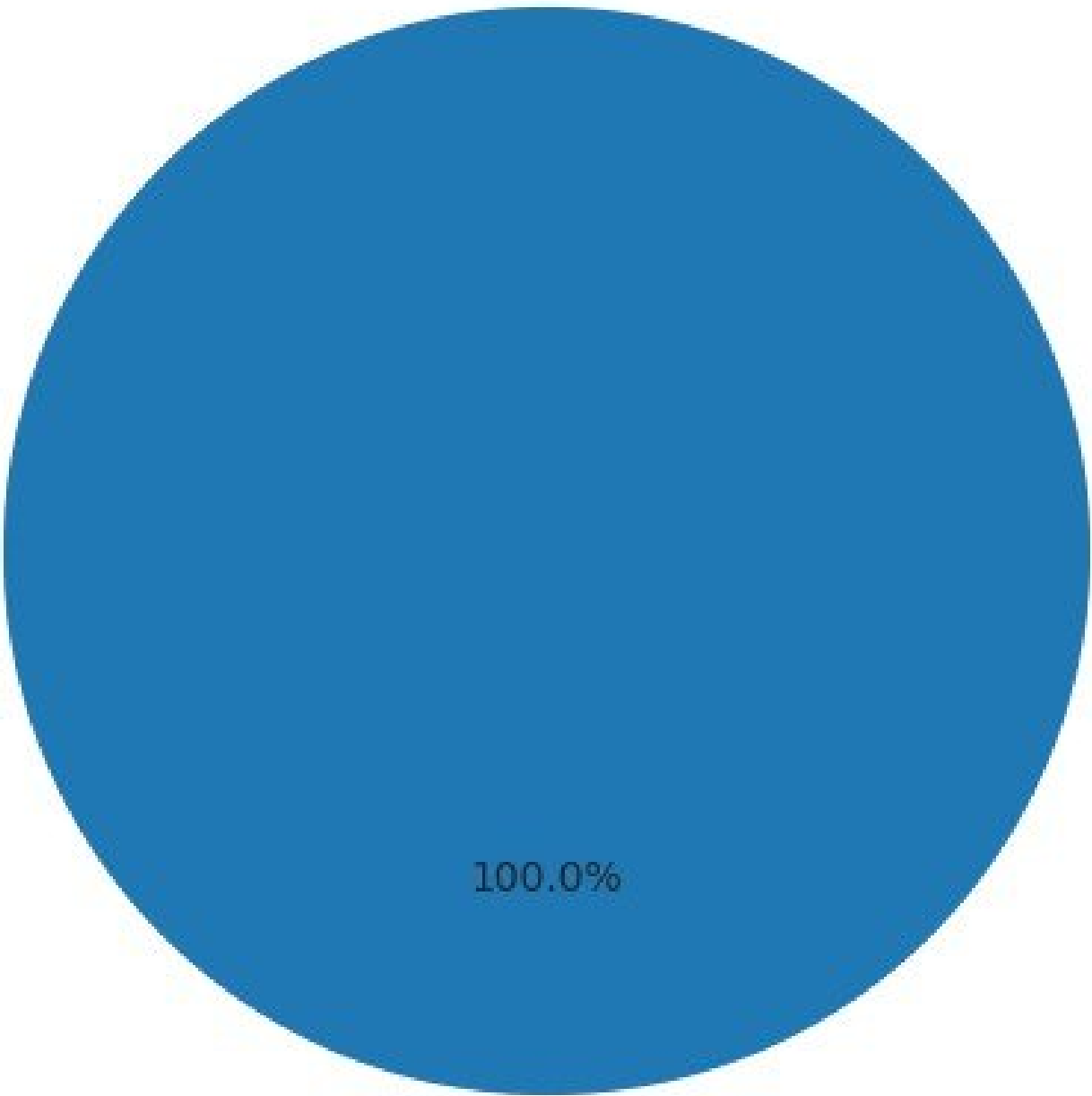
```
def satisfaction_level(score):
    if score >= 80:
        return 'Highly Satisfied'
    elif score >= 60:
        return 'Satisfied'
    elif score >= 40:
        return 'Neutral'
    else:
        return 'Dissatisfied'
```

```
df['Satisfaction_Level'] = df['Avg_Score'].apply(satisfaction_level)
```

```
print(df['Satisfaction_Level'].value_counts())
```

```
plt.figure()
df['Satisfaction_Level'].value_counts().plot(
    kind='pie',
    autopct='%1.1f%%',
    startangle=90
)
plt.title('Overall Satisfaction Distribution')
plt.ylabel('')
plt.show()
```

Overall Satisfaction Distribution



Dissatisfied

```
# SENTIMENT ANALYSIS FROM QUESTIONS
```

```
# =====
```

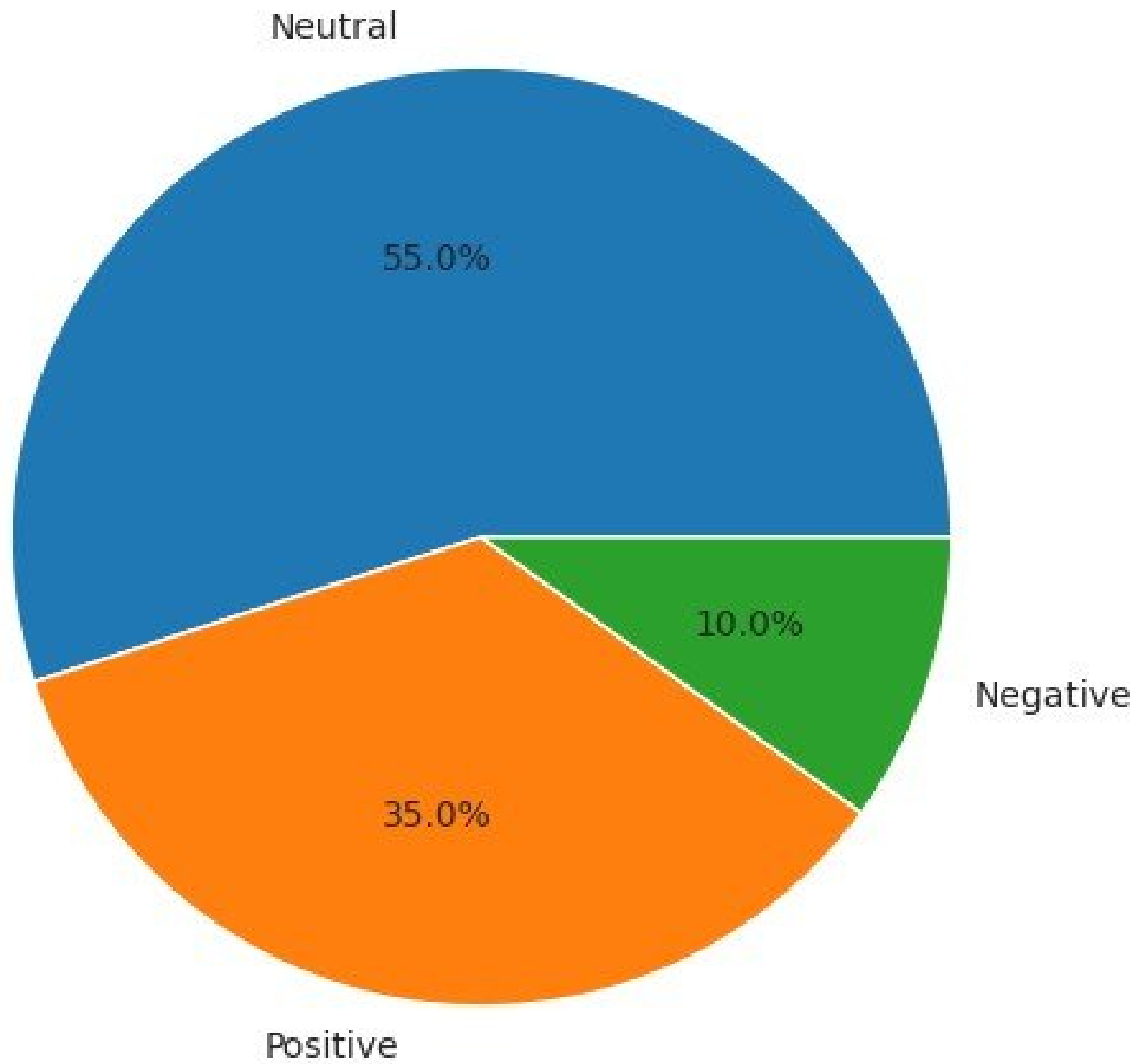
```
def get_sentiment(text):  
    polarity = TextBlob(str(text)).sentiment.polarity  
    if polarity > 0:  
        return 'Positive'  
    elif polarity < 0:  
        return 'Negative'  
    else:  
        return 'Neutral'
```

```
df['Sentiment'] = df['Questions'].apply(get_sentiment)
```

```
print(df['Sentiment'].value_counts())
```

```
plt.figure()  
df['Sentiment'].value_counts().plot(kind='pie', autopct='%1.1f%%')  
plt.title('Sentiment Distribution of Feedback')  
plt.ylabel('')  
plt.show()
```

Sentiment Distribution of Feedback



```
# WORD CLOUD FOR NEGATIVE FEEDBACK
# =====

negative_text = " ".join(
    df[df['Sentiment'] == 'Negative']['Questions'].astype(str)
)

wordcloud = WordCloud(
    width=800,
    height=400,
    background_color='white',
    stopwords=STOPWORDS
).generate(negative_text)

plt.figure(figsize=(10,5))
plt.imshow(wordcloud, interpolation='bilinear')
plt.axis('off')
plt.title('Common Issues from Negative Feedback')
plt.show()
```

```
# =====
# IMPROVEMENT AREAS
# =====

improvement_areas = df[df['Avg_Score'] < 60][
    ['Course', 'Questions', 'Avg_Score']
].sort_values('Avg_Score')

print("Top Improvement Areas:")
print(improvement_areas.head(10))
```

Top Improvement Areas:

	Course \	Questions	Avg_Score
212	MSC DATA SCIENCE - 1	The teachers identify your strengths and encou...	4.986877
207	MSC DATA SCIENCE - 1	The teaching and mentoring process in your ins...	4.986877
465	SYBSC	Was your performance in assignments discussed ...	4.991711
58	FY BCOM (ACCOUNTING & FINANCE)	What percentage of teachers use ICT tools such...	4.992034
210	MSC DATA SCIENCE - 1	Your mentor does a necessary follow-up with an...	4.992501
219	MSC DATA SCIENCE - 1	The overall quality of the teaching-learning p...	4.992501
118	FYBSC	What percentage of teachers use ICT tools such...	4.992501
278	MSC ANALYTICAL CHEMISTRY SEM III	What percentage of teachers use ICT tools such...	4.993000
521	TYBCOM	How well did the teachers prepare for the clas...	4.993412
520	TYBCOM	How much of the syllabus was covered in the cl...	4.993412

FINAL SUMMARY:

Overall Avg Satisfaction (%): 5.0

Highest Rated Course: TYBSC

Lowest Rated Course: SYBCOM

Best Program: B.SC. COMPUTER SCIENCE

Lowest Rated Question: What percentage of teachers use ICT tools such as LCD projectors, Multimedia, etc. while teaching?